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## THE AMERICAN JOURNAL OF INSANITY.

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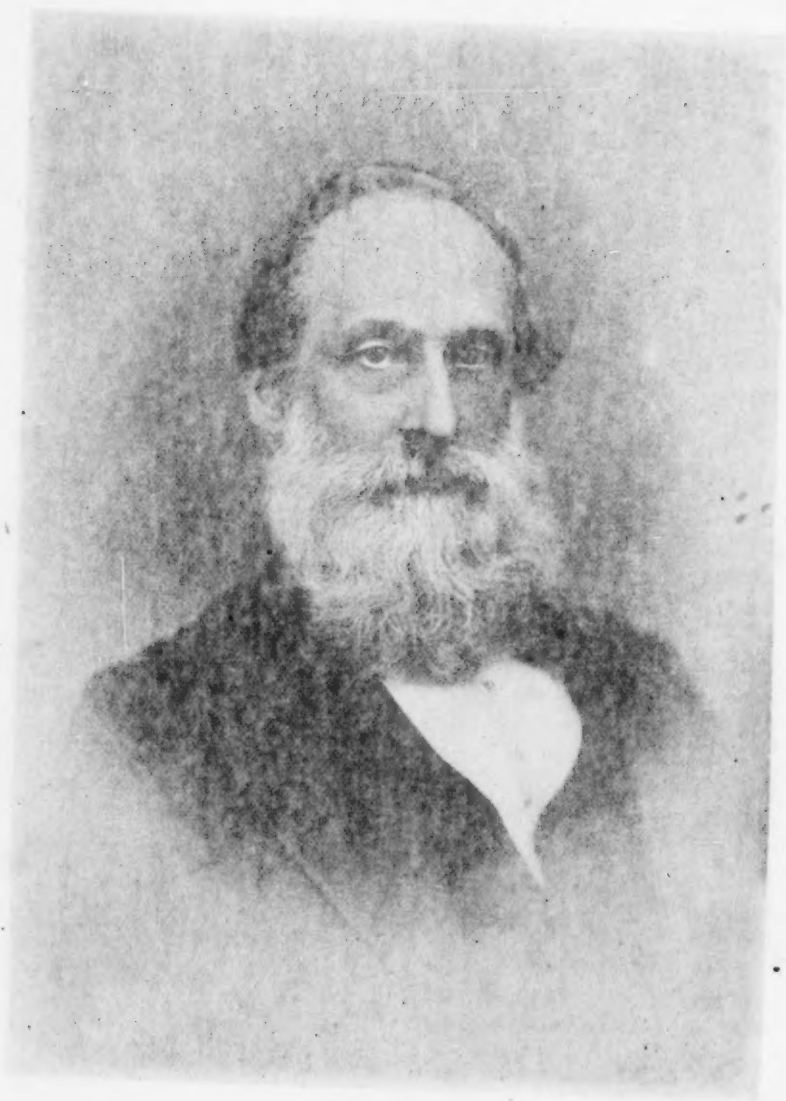
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# AMERICAN JOURNAL OF INSANITY.

JANUARY, 1891.

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## PHYSICAL TRAINING AS A MEANS OF MENTAL IMPROVEMENT.\*

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BY H. D. WEY, M. D., ELMIRA, N. Y.

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A prison is in a sense a hospital for the treatment of moral atrophy and disease whose outward and visible manifestation is crime.

The change which has been wrought in prison methods, the abandonment of the idea that punishment deters from the commission of crime, have established to a degree, within certain limits, a parallelism between a hospital for the insane and one for the treatment of the criminal. To both the patient is committed by process of law; and from both (where the indeterminate sentence is in operation) he is returned to society when there is a reasonable probability that being no longer hampered by mental crudeness and moral infirmities he can maintain himself in harmony with and adjustment to society.

The man bereft of reason is secluded, not as a reflection upon his unfortunate mental state which has come to be regarded as a disease, but for the protection of society that he may do no harm to himself or inflict violence upon others, that the disordered condition of the mind may if possible be overcome. The relation society bears to the criminal is primarily self-protection obtained through his seclusion, and secondarily the treatment of the convicted felon and his subjection to influences, chiefly educational, that will modify and correct his abnormal tendencies. In criminality as in insanity the earlier treatment is instituted the more hopeful becomes the prognosis.

It is the individual and not the crime that calls for the most attention. In dealing with the delinquent class the re-formation,

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\* Read at the forty-fourth annual meeting of the Association of Medical Superintendents of American Institutions for the Insane, held at Niagara Falls, June 10-13, 1890.

(reformation is a misleading term and I would that it could be stricken from the vocabulary,) of those who possess criminal tendencies and are susceptible to reformation should be undertaken when the susceptibility to educational influences is the greatest, that is during the plastic period when habits for evil and good are in process of formation. Failing through the utter worthlessness of the material to impress, or from delaying too long until an evil habitude has been established, the habitual delinquent who by his persistent course of outlawry has demonstrated his unfitness and incapacity to properly maintain himself should be taken in charge and dealt with as any other irresponsible, and protection obtained in the seclusion of the aberrant and incapacitation for future criminality by putting him away.

I am of the opinion, and I look for no criticism of the proposition here, that a defect by reason of his deficiencies is, whether he be a mental deficient or moral delinquent, entitled to methods of treatment that will yield the most substantial and satisfactory results in freeing him from the mental and moral embarrassments that rendered him antagonistic to society.

In every correctional institution there is found a class of dullards and illiterates, who as a result of dormant or partially developed faculties and an evil habitude of mind and body, are incapable of prolonged mental application and physical action due to want of self-control arising from mental and moral crudeness.

With such a class prevailing educational measures are unavailing and disappointing. And why. Is it because there is lacking a power of receptivity to impressions from without and an undeveloped nervous system weighted by its own defects? While these conditions may represent a partial cause there is yet another.

In the hurry and anxiety to impress the mental man and touch within the subject a religious chord it would seem as if a fundamental principle of education had been ignored.

You may if you please regard intellection and ethics, mind and morals, as the superstructure of education, and the body the foundation. The plan of the edifice may be comprehensive and imposing, but its stability will depend upon the enduring and resistive power of its foundation, comprised in corporal excellence, the integrity of the various organs of the body, their mutual adjustment to the varying conditions of each other, and the maintaining of their reciprocal relations.

It used to be that the body received attention before the mind.

In these later days the custom has been to cultivate first the mind and afterward repair the body. Now it would seem as if the educational pendulum is swinging back to the heathen plane that physical excellence determines in a measure the quality of intellection.

Four years ago the work of physical training as a pedagogic measure was entered upon at the New York State Reformatory at Elmira. I was at the time ignorant of the comprehensiveness of the scheme of supervised and systematized physical education as carried out in the leading colleges and universities; while in prison methods it was an untraveled field. This departure was brought about through observation based upon experience of the futility of attempting to treat primarily by mental and moral means certain delinquents.

The work was undertaken to ascertain, if possible, if physical training, comprised in frequent baths and massage, a regulated dietary, and directed exercise, would not result in at least a partial awakening and stimulation of dormant mental and moral power. Commenting upon the year's work I said in my annual report: "The class was an experiment from its foundation and no preconceived ideas as to the results to be reached were entertained, or that each dullard by a process of physical gymnastics was to be converted into a scholar. Increased mental activity rather than muscular development was to be the gauge of the success of the experiment or its failure." I am free to confess that the work done in physical training in 1886 was purely experimental, and the class in recognition of this was called the Experimental Class.

We now assume to think we have passed beyond the experimental stage, working to see what results may be; and at the present time, in a positive state of mind, are working to do what the experience and accumulated knowledge of the latter years has emphasized as to the value of physical education as a pedagogic measure for mental and moral ends.

In school and college physical training is employed for recreation, health, and bodily education: we have essayed its application in the treatment of the youthful criminal as contributing to health, intellection, and ethics, that is, morality in all the term implies.

In his work on Idiocy, Dr. Edward Seguin noted, "The beginning of the treatment of each child is where his natural progress stood still." Many a youthful criminal is in arrears corporally as

well as mentally and morally. His corporal architecture is attenuated, assymetrical, and unharmonious. The scheme of his construction is an angular one and not rounded as marks the plan of him, I will not say the perfect man, whose body, mind, and moral sense are in a fair degree of harmony and adjustment.

The criminal should be regarded as a biological study and treated anatomically and physiologically with a view to developing his latent good and minimizing the asserting bad. The treatment should be a reconstructive one beginning with bodily improvement which will contribute to a mental awakening and unfolding that in turn will manifest itself in a quickened moral sense; and not a plan of procedure based upon sentimentalism that begins with mental forcing, followed by an injection of moral platitudes, until a state of satiety and unassimilated morality is established, established early in the treatment because the subject's receptive powers are crude and unavailing. This latter method of treatment has caused many to become skeptical as to the efficacy of education in the treatment of the criminal degenerate because in its application and operation the bad have not all been made good.

The ultimate purpose of the incorporation of physical training in the pedagogic work of the Elmira Reformatory is the moral improvement of the men; a better mental state or condition being indispensable to the attaining of this. That the latter may be obtained it is necessary to institute a process of physical renovation looking to the strengthening of the body as a whole, organically and functionally, correction of errors of nutrition, acceleration of the processes of waste and elimination that tissues well nourished and controlled may replace those that are flaccid and energyless. In short that the subject may be changed from a vegetative creature, one who has merely an existence, to a being possessing a nervous system which, while it may not be sensitive and highly endowed, is yet a step in advance of a rudimentary type.

The elements of physical training are threefold. 1. Free movements and developing apparatus, the gymnastic feature. 2. The bath, including massage. 3. Dietetics.

These three features seem indispensable to a scheme whose object is physical betterment. Their several offices are so related that it is difficult to give prominence to one to even a partial eclipsing of the others.

And first as to the gymnastic phase comprised in free exercises



and the use of the developing apparatus. This is neither a fitting time nor place to draw comparisons as to so-called systems. I will say, however, that rather than abandon physical education in the treatment of the class of boys and youths to whom I have applied it, I would be willing to relinquish the improved facilities and surroundings that it has been possible to acquire and return to a prison corridor as an exercising room, and exercises without apparatus performed under competent guidance.

The effects of free movements are felt beyond the muscular development they occasion and the improved carriage and bearing they confer. While these are important, they must not be regarded as the sole objects of this variety of work. Beginning with the simplest exercises, in every case adapting the work to the physical requirements and mental calibre of the subject, and in occasional instances as has been done, stitching a piece of brightly colored cloth to the coat sleeve that right and left might be differentiated, and carrying the movements progressively forward until complex ones involving the use in rapid succession of various and antagonizing muscles add a mental drill to a physical setting up. Rapidity of thought and action is conferred, the ear trained till it can more than appreciate a sound, and a stimulus applied through the sense of hearing in the form of a command, is conveyed to its proper nervous area, where in rapid succession it is formulated and analyzed to express itself without hesitation and stammering in coördinated and rythmical movements. Free exercises tend to habits of obedience and the formation of the habitude of self-control, marking the first step in the lesson of unquestioned acquiescence to higher power than individual promptings.

I am frequently asked if the men receiving physical training enjoy the same. My reply has been they were not selected to be so treated for their enjoyment. When it can be done a healthy competition is permitted; but mere enjoyment, the doing for the pleasure it affords, is not considered. These same men do not enjoy labor, or school, or the plain substantial fare afforded them, but no one questions the benefits they confer.

The developing apparatus, the chest weights, quarter circle, inclined plane, neck, arm, finger, wrist, and ankle machine, are valuable as a means of developing individual muscles and groups. In addition the effect upon the men of apparatus that can be seen, felt, and handled, is good. Their dull minds do not comprehend the underlying principles governing free movements which seem to

them to be an expenditure of force without a recompense, a nothing for something; but employ tangible means and in a manner they understand. Apparatus is to them a "muscle raiser" and a thing to be seized and grappled with that they may acquire additional strength. The flying and traveling rings, the horizontal and parallel bars, the vaulting bar and jumping board, become instruments of healthy competition, inciting each to a performance equal to his neighbor's, overcoming apathy and indifference by substituting self-reliance and a consciousness of ability in hitherto unsuspected lines.

The men are weighed and measured from time to time; primarily to note the points of least resistance and organs most susceptible to the invasion of disease, and secondarily to determine the degree of susceptibility to reconstructive measures.

Recognizing the law of a natural limitation as applying to every individual, the results sought have not been the development of all to a common plane, but rather systemic accretion and extension together with an improved nutrition according to the necessities of each.

In the treatment of the men to whom physical training is applied tub-bathing has been discontinued and the dry vapor or Turkish bath substituted. The former contributes to cleanness, but its effects are not so far reaching and comprehensive as those of the latter, whose functions transcend cleanliness as it is commonly understood, that is, the absence of manifest dirt.

The three stages of the Turkish bath, the sweating, shampooing and massage, and the final cooling, resolve themselves into a therapeutic measure contributing to an increase of systemic energy.

The effect upon the cutaneous system is the rapid and continuous elimination of effete and poisonous matter and a raising to the highest degree of functional activity and structural excellence one of the chief eliminating organs. The circulatory, glandular, and nervous systems are likewise impressed. A combining of heat and shampooing, the latter now termed massage, supplies and makes good the waste of fluids occasioned by the former, causing the cutaneous system of blood vessels to draw upon internal trunks, abdominal, thoracic, and cerebral, and tending to relieve areas of localized congestion. The massage builds up and strengthens muscles, rousing to action weak and torpid organs, and as has been said, "restores the balance in obstructive disorders, and promotes secretion and absorption. With each muscle, nerve,

and blood vessel thus stimulated, the results are greater tone and vigor." No one will question the effects upon nutrition of the exalted condition of the circulatory, glandular, and nervous systems, and from the stimulation they receive their augmented power to mutually support and sustain each other.

It falls to you rather than to me to note the degree of influence upon the central nervous system, upon their individual cellular elements, of stimulation of peripheral nerves by heat and massage.

I attach importance to the plunge-bath as a reactionary measure and for the opportunity it affords for swimming, a form of exercise to be commended as a general muscle drill.

The benefits conferred by the bath have related it to the gymnasium as is the study-hall of school to recitation room.

The question of dietetics has been to me the most perplexing of all relating to physical training. Food has been defined as—"Any substance which, when introduced into the living organism, can minister to the maintenance of its structure and its activities; and a perfect and complete food for any living body will be one which comprises all the elements which enter into the composition of the tissues, juices, and secretions of the body, as well as those which are needed for the maintenance of the chemical changes connected with its functional activity."

The popular conception of a food is rather that of a fuel for purposes of combustion that a certain amount of energy may be produced to accomplish a stated quantity of work. The importance of a reconstructive dietary for the defective class whom I have subjected to physical training is beyond question. An ideal dietary is one which in addition to furnishing energy requisite for the duties of the passing hour is rich in and capable of supplying those elements the subject is most deficient in and which his body stands the most in need of. But this I must confess I have not found as yet; and until I or some co-worker supply this missing link, the triality of physical training, exercise for structural amplification and harmony, the bath and massage for organic excellence and diet that the subject may be fed, will be more complete in theory than perfect in application.

For the initial class of 1886 the corridor was the exercising room and a few pairs of dumb bells comprised the apparatus. The exercises were almost entirely what is known as the setting up drill. Twelve of the most stupid, illiterate, unimpressionable,

ox-like men were selected to see what change of habit and characteristic could be brought about by treatment of the corporal parts.

It is not necessary to describe at length the plan pursued, but suffice it to say that for five months these twelve men were exercised and washed, grooming best and most tersely expresses the treatment they received, and then returned to shop and task under conditions they previously had not been equal to. For a corresponding time they were watched and noted under the stress of discipline and requirement of task to determine whether the improvement, the resultant of the stimulus applied, would with the removal of the latter pass away; or remaining, mark an era of improvement in their embarrassed lives. The latter proved to be the case as in school, labor, and demeanor, their percentage for the five months after was greater than for five months preceding their drill and manipulation.

And another class was formed and treated in a similar manner. The third class was selected for physical and mental deficiencies and an abandoned shop used as a gymnasium. With this class began the use of apparatus in a limited way. We constructed a jumping board, horizontal and parallel bars, that a spirit of competition might be aroused, holding all to a better performance of their work. When the weather permitted foot racing took place in the yard and free exercises likewise there performed: And in this manner the work of physical training as a purely educational measure was brought about, and meeting with a favorable reception an appropriation was asked from the Legislature for greater facilities and obtained.

On the 15th of May, 1889, ground was broken for a bath-house and gymnasium and the work progressed as best an inclement season would allow until March 20th, of the present year, when the gymnasium was informally opened with a few class exercises before a small audience of interested friends who had watched step by step the progress of our work.

The outside measurements of the building are 90 by 140 feet. It is of brick, slate roofed, with eight large dormer windows in the roof in addition to numerous side and end windows affording abundant light and proper ventilation. At one end of the building is the bath-house occupying a space about 40 by 85 feet in the clear, divided into six compartments.

In order comes first the measuring room, 18 by 20 feet, supplied



with scales, measuring rods, hand, back and leg dynameters, and other appliances to note the strength and development of the patient, if I may use the term. Communicating with this is the dressing and drying room with compartments for the gymnasium dress which is assumed when the class enters the building and laid aside when the men pass out. Next comes the shampooing room, 18 by 20 feet, with four tables that as many men may be treated simultaneously. Over each table is a hot and cold spray and douche and a fifth against the wall. The floor from the four corners slopes to a catch basin in the centre that superfluous water may be carried off. Then the warm room, 18 by 20, with a temperature of from 130 to 150 F. as may be desired. In the centre of the room is a plunge, 4 by 6, containing four feet of water.

The plunge is surrounded on two sides by a brass railing, while at either end is a ladder of the same material to facilitate the egress of those who are too clumsy to clamber up the sides. On each side of the room are seats arranged in tiers of three, one above the other, amphitheatre like, where the men sit and exude the sin, original and otherwise, that is in them.

Opening off from the warm room is the hot room of same dimensions as the former and capable of an atmosphere of from 180 to 200 F. It lacks the plunge but in other respects resembles the warm room.

The room containing the swimming bath is 16 by 50 feet. The tank is 12 by 42, and has a sloping bottom that allows of four and five feet of water at its respective ends, its capacity being estimated at 25,000 gallons. By means of a pipe perforated by minute holes and traversing the length of the tank upon its bottom, and through which steam can be sent, it is possible to raise the temperature of the water to 70 F. or higher. The swimming tank like the smaller plunge is surrounded by a railing and provided with ladders. The walls of the bath-house are of brick, rubbed down and painted white; while the floors of the various rooms together with the sides and bottoms of the tanks are Vermont marble, a material more expensive than cement which could have been employed, but is not comparable to marble in appearance and the sense of cleanness it conveys.

The space above the bath-house is a gallery that overlooks without obstruction the gymnasium proper.

The gymnasium approximates 85 by 95 feet, giving in round numbers 8,000 square feet of floor surface free from post, pillar,

and incumbrance of any kind. The roof is an open truss painted a neutral tint and the ceiling, Georgia pine. Suspended from the trusses and supported by the walls is a running track four feet in width and eleven feet above the floor, and extending around the room. The distance from floor to ceiling along the lateral walls is twenty-one feet, and from floor to peak is forty-two. The floor is of pine, treated with oil and shellac.

The developing apparatus is such as is commonly employed in any all-round gymnasium, save that for prudential reasons, the trapeze has been omitted. Chest-weights are placed along the wall and stationary fixtures so arranged that by rope and tackle-block, in an instant, they can be lifted out of place, allowing the clearing of the floor for purposes of class drill with dumb-bells, Indian clubs, wands, and staffs.

The building with plant of bath and apparatus complete cost between \$15,000 and \$16,000, to which must be added estimated cost of labor, which is not considered, as at the time of construction most of the inmates were in idleness and their time was charged to maintenance account.

At the present time the class consists of eighty boys and young men of from sixteen to twenty-nine years of age. It includes epileptics, moral imbeciles, some that in physiognomy and gait are prototypes of those over whom my friend Dr. Kerlin exercises custodial care, the dwarfed and stunted product of city tenement and lodging house, and the bucolic, sensuous in tastes and blunted in perceptions.

The boy who knew neither the name of days nor months and dated an epoch in his life from "the time the snow went off the ground;" the girl-boy, effeminate in features and soft of voice, ignorant of the county and the State in which he lived, whose playmates were his sister's companions and her dolls, because the boys made fun of him upon the streets; the youth not far removed from feeble-mindedness and with the embarrassed locomotion the mentally deficient so often have; the crank with peculiar notions of his own importance and inclined to disobey; foundlings cast adrift upon the world to starve or live as best they might; the duldard in the school; the moral imbecile who lies and steals and tortures whom he can and sees no error in the acts that yield him what he wants; those attenuated through insufficient nourishment, uncertain habitation, and disease; the little tyrant who ruled a widowed mother with despotic sway and filched her hard earned

wages to minister to his factitious wants: are all types of those included in the class.

The conditions considered in selection are physical deterioration from whatsoever cause, inability to maintain progressive standing in the schools, and ethical departures when there is reason for assuming the same to be dependent upon a body whose parts are ill-adjusted and out of line.

The class is divided into sections A, B and C, with a time schedule as follows:

Section A, Gynnasium work—Monday, Wednesday and Friday, 7.30 to 9.30 A. M., Tuesday, Thursday and Saturday, 7.30 to 11, A. M.; Bathing—Monday, Wednesday and Friday, 9.30 till noon; Drawing School—Tuesday, Thursday and Saturday, 11 till noon; Trades School—Monday, Tuesday, Thursday and Friday, 1 to 4 P. M.

Section B, Gymnasium work—Tuesday, Thursday and Saturday, 7.30 to 9.30 A. M., Monday, Wednesday and Friday, 7.30 to 11 A. M.; Bathing—Tuesday, Thursday and Saturday, 9.30 till noon; Drawing School—Monday, Wednesday and Friday, 11 till noon; Trades School—Monday, Tuesday Thursday and Friday, 1 to 4 P. M.

Section C, Gymnasium Work—Monday, Tuesday, Thursday and Friday, 1 to 4 P. M.

Calisthenics and free movements for the three sections, Wednesday and Saturday, 1 to 4 P. M.

From the above it will be seen that manual training and drawing are incorporated in the educational scheme in vogue in the treatment of dullard and non-responsive types.

There are some who primarily are too dense and stupid for manual training. Such as these are in the beginning treated by physical means alone until such a time as there shall come a degree of mental opening and responsiveness to other stimuli. The trades school possesses an educational value, a mental discipline and strengthening for deficient, by instructing them in habits of precision overcoming the careless and crude form that characterized their previous manual efforts. It develops their latent sense of form besides uniting the eye and the muscles of the arm and hand in associated action.

I would not be understood as advocating physical training as a panacea for every ill of body, mind and morals. But in the re-adjustment of certain dullards and illiterates I cannot regard it other than a mistake to attempt primarily to impress the mind. A season

of physical education, with a discipline that holds each man to his work, requiring him to do it well, develops qualities of attention, activity, and obedience, and marks a state of beginning intellection.

Mindful ever of the law of a natural limitation, and the fact that education is restricted within certain limits, it is not assumed that physical training or any other educational process will transform a being into any thing other than what he was capable of becoming through the endowments he originally received at the hand of nature.

The Elmira conception of physical training is that the cultivation of corporal excellence by renovating tissues will manifest itself in improved nutrition and increase of organic power, an elaborated physical basis, conditions that favor and render possible the minimizing of the subject's asserting bad and the bringing to light his latent good of mind and morals, which would never have been developed voluntarily and of his own free will had he continued on in his embarrassment of body and environment.

With this idea, and for the defective classes named, the gymnasium is but a preparatory and training school for those of trades and letters.



## ON THE EMPLOYMENT OF WOMEN PHYSICIANS IN HOSPITALS FOR THE INSANE.\*

BY EDWARD N. BRUSH, M. D.,

Assistant Physician, Pennsylvania Hospital for the Insane, Philadelphia.

For ten years at least, there has been a demand from certain quarters for the employment of women physicians in the care of the women patients in asylums for the insane. In some States female assistants have been appointed voluntarily by Boards of Managers or other authority, while in others legal enactments have compelled such action, and in others the attempt has been made to obtain legislative action upon the matter which would necessitate such appointments. The demand for these appointments has been based on one or all of the following grounds:

I. Upon what may be termed the ground of sentiment, the theory that women physicians are better fitted to control and direct the care of the insane of their sex than are men, and that upon grounds of morality, they are better adapted to cope with certain emotional sexual manifestations of insanity in women.

II. Upon the theory that insanity in women is largely due to diseases of the pelvic organs, and that treatment directed towards these diseases could with more propriety, and more in consonance with the feelings of the patients be administered by women physicians.

III. That positions in hospitals for the insane opened another field of occupation for women physicians.

It is not the intention of the writer to discuss any of these propositions at great length, but merely to open the subject, which has now certainly been long enough before the members of this association for some established opinions to be formed, for discussion.

Certainly enough experience has accumulated to show whether it is a fact, as far as the insane are concerned, that there are any reasons based upon scientific observation which call for the appointment of women physicians in hospitals for the insane. Has the experience in Pennsylvania, Massachusetts, and elsewhere shown

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\* Read at the forty-fourth annual meeting of the Association of Medical Superintendents of American Institutions for the Insane, held at Niagara Falls, June 10-13, 1890.

that such appointments have increased the recoveries or lowered the death rate, or that the patients are in any way better cared for than under strictly male supervision? If such has been the result, let us have the facts. If the whole demand is merely a matter of sentiment let us proceed on that basis; but for the sake of honesty and correct judgment let us not ignore the sentiment nor confuse the facts.

A few words upon the first part of the second proposition which some of the advocates of these appointments advance as a reason for their demands. For years some of our gynæcological friends in the profession have been urging upon us the necessity of more active treatment directed to the pelvic organs as a cure for insanity. Not professing any great knowledge of neurology or psychiatry, they have many of them reasoned from conditions of which they were ignorant to assumed causes which they thought they could grasp, and were ready to see in every insane woman a victim for "operations" and "treatments" without name or number, and, as the end would show, could they have their way, without appreciable effect in curing the mental malady.

Professor Charles H. Reed, of Cincinnati, in an address\* takes for his subject *Gynæcic Element in Psychiatry*, with suggestions for asylum reform, and is as far as I am able to find in an exhaustive examination of periodical medical literature the latest, and for two years at least, almost sole writer who urges the frequent "relation of diseases of the female generative organs to the causation and treatment of insanity."

Professor Reed regrets that he cannot in taking his title use the simple language of the "plain spoken gynæcologists." Those of us who know anything of the terminology of gynæcological writers, and there are a few asylum men who do, will be amused that a gynæcologist should feel at all on strange ground in using "technical phraseology."

Some idea of Professor Reed's way of jumping at conclusions is gained almost at the outset of his address. Referring to menstrual disorders and insanity he says: "My business is with those cases in which menstrual disturbance figures as the antecedent and *logically the causal condition*." Did not Dr. Reed learn long ago that not every antecedent could be made to bear relation to a supposed consequent without some process of reasoning more convincing

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\* *Buffalo Medical and Surgical Journal*, May, 1880.

than mere assumption? He certainly can imagine that it is as logical, and should know that it is in many cases much sounder pathology, to trace the antecedent menstrual disturbance to the same nervous perturbation which caused alike the insanity and the disturbed menses.

He cites a case in which for some time various symptoms of pelvic disturbance had been complained of, then menstrual suppression—acute mania—death. No attention was paid to the pelvic disease at the institution to which the patient was committed, that is, no examination of the organs of generation was made. Our critic admits the difficulties in the way, but suggests reliance in such cases upon the “innocuous beneficence” of anæsthesia.

The next case cited is one of “pubescent insanity from delayed menstruation” in which the treatment which seemed to have been that which was successful, with the exception of the local hot douches and galvanism, does not differ in any material respect from that which would naturally be pursued by any intelligent alienist, even the most skeptical, as regards the “gynæcic” elements in the case. The term pubescent insanity naturally suggests that the cases which would be classed under this head belong to each sex; indeed the males predominate. Would our friends who are anxious to put the women of this class under gynæcological treatment advise some yet unnamed specialist for the males? If the necessity for local treatment of the generative organs exists in one sex, why not in the other? It is a new theory certainly that puberty implies a pathological state, however natural and correct the inference that the physical and mental changes of that period might result in disturbance of brain function. The opposite physiological change, the climacteric, is a fruitful period for the onset of insanity, possibly in some of these cases among women the pelvic organs may not be in a state of physiological perfection, certainly in all who have borne children some pathological changes could be found, but to look for the causes of the insanity in any large proportion of these cases in the diseases which might be found in the generative organs of women, and to expect to see recovery result from treatment of those diseases would be as absurd as to say that changes in the analogous organs of men at the same period, if such were found, produced the climacteric insanity observed in the male sex.

Possibly the term “climacteric” as applied to men may be looked upon as fanciful, but I am convinced that such a period can be dis-

covered in the life history of men who have passed the age of sixty. It does not imply what it does in women, but it does imply a change in the physiological functions and activities of the body and is a period during which insanity may develop. The special treatment which the majority of such cases demand is in no material respect different from the special treatment demanded by women.

I am aware of the pathological changes which may occur in women at this period, which may demand treatment in asylums as elsewhere, but they are incident to the period and not relative to the mental disturbance, its care or treatment.

Prof. Reed, on an occasion, perhaps, when scientific accuracy was more essential than rhetorical flights, would favor his audience with the collected results of his own experience. He would tell possibly how many neuroses or psychoses in proportion to all of his cases he had observed, and how many he had relieved by his special line of treatment.

He would, if he has been, as I doubt not, a careful observer, tell how often he had suspected some disease incident to women, and found that he had been deceived by the mimicry of some neurosis which he might, with less care, have looked upon as the result of the condition it simulated. When from his extensive experience he presents an array of cases carefully analyzed, they will doubtless find more attentive scrutiny and convey more force than does his polemic on asylum reform. It is moreover possible, when he arranges his data, and carefully looks at all sides of the question, it is possible, I say, that he may see reason for change of opinion. In the careful analysis of these cases Prof. Reed will I know pardon the suggestion, that, if a psychiatrist and neurologist needs a gynæcologist to point out to him the significance of symptoms, the converse may be equally true.

I could point out to him a series of cases occurring within the last three or four years in this hospital, outnumbering the instances to which he makes reference, in which recovery has occurred because the Superintendent wisely insisted that certain grave gynæcological operations, suggested by eminent gynæcologists, were not necessary.

From my own out-patient service I could point out several other cases whose condition had only been aggravated by the services of gynæcological experts. But such isolated cases would prove no more and no less than the few mentioned by Prof. Reed.

Prof. William Goodell, than whom no better authority exists,



has recently\* written an article upon the abuse of gynecological treatment, through mistaken diagnosis, which should be read by every neurologist and gynecologist.

He shows, what many neurologists have long suspected, that often when diseases or disorders incident to women are suspected, and too often when diagnosed and treated as such, they are but the expression of some neurosis and should be so treated.

How much better off some of their patients would be if every gynecologist would read and ponder upon this paragraph from Prof. Goodell's article:

"In a parous neurasthenic woman, a leucorrhœa, a slight prolapse of the womb, a small tear of the cervix, or an insignificant rent of the perineum, each plays the part of the will-o'-the-wisp to allure the physician away from the bottom factor. To these trifling lesions—because they are visible, palpable and ponderable, and because he has by education and by tradition a uterine bias—he attributes all his patient's troubles; whereas a greater and a subtler force, the invisible, impalpable and imponderable nervous system, may be the sole delinquent."

Again: "Often the victim of this misdirected treatment is a young, unmarried girl." The author states that at the time of writing he had seven ladies "rapidly recovering from general nerve exhaustion and from its sham uterine symptoms. They will get well without any local treatment whatever. Yet all were pronounced by their physicians to be cases of uterine disease, and had been so treated for months and even for years without benefit. One of them was urged by an excellent authority to submit to the removal of her ovaries; another to have her slightly torn cervix sewn up; a third to have a trifling rent in the perineum repaired. Whilst the fourth, a young girl, whose nerves had given way from hard study, had a perfectly healthy and a perfectly poised womb, propped up by an ante-flexion pessary, treated every other day, for weeks, by an application, and deluged twice a day with gallons of hot water."

Professor Goodell confesses with an honest sincerity, which deserves emulation, that he has sinned in this matter of indiscriminate uterine treatment, and cites some of his own cases as illustrative of his text.

He points out that the instinct of causality in man, as I have

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\* *Med. News*, Dec. 7, 1889.

pointed out in Professor Reed's method of illogical conclusion, leads him "to forget that things seen may come from things unseen, and to attribute preferably to the seeable and to the touchable like phenomena which may come from the unseeable and the untouchable." We are likely to be misled, he says, and these words deserve especial emphasis: "First, by symptoms which by common consent are deemed peculiar to uterine disease; secondly, by the co-existence of actual uterine disease to which we attach undue and over-shadowing importance." We fail sometimes to bear in mind that "woman has some organs outside of the pelvis."

Professor J. C. Skene, of Brooklyn, for many years gynecologist to the Kings County (N. Y.) Asylum for the Insane, is far from agreeing with the enthusiasts who regard diseases of the reproductive organs as an active cause of insanity in women, and see in special treatment an active force in producing recoveries.

A leading article in the *Medical News* of December 31, 1887, goes very dispassionately over this whole ground. The writer concludes that diseases of women "may have an influence in lowering the natural standard of health, but as an active direct agent in the production of insanity they are greatly overestimated." He quotes from Dr. Margaret A. Cleaves, Physician to the Women's Department of the Harrisburg Pennsylvania Hospital for the Insane, who says: "My experience does not justify me in the belief that the percentage of recoveries will be increased by such special treatment as I had hoped."

Dr. Alice Farnham, at one time an assistant physician at the Willard Asylum, found from an examination of a number of cases taken *seriatim* from the patients of two wards a larger proportion of cases free from so-called women's diseases than she found in an equal number of sane women of the same social class out of the asylum.

I think I am perfectly safe in saying that no competent authority stands ready to claim to-day that insanity in women is produced in any decided proportion of cases by diseases peculiar to the sex.

I think, moreover, that I am equally safe in saying that the better authorities are commencing to see that uterine treatment has been overdone, and that gynæcology has much to learn from psychiatry and neurology.

The reports of the State Committee on Lunacy of Pennsylvania show that during five years ending September 30, 1888, 4,280

women have been admitted to the hospitals for the insane in that State. In 160 of these the insanity was said to be due to diseases peculiar to women, excluding puerperal causes, but including disorders and irregularities of menstruation, the menopause, etc.

Two of the hospitals represented in this enumeration, Harrisburg and Norristown, have had during that entire period women physicians for the female patients, and if these diseases and disorders were largely preponderant in their patients they certainly did not discover and report them. Harrisburg, with 400 admissions of women, reports 16 assigned to these causes, and Norristown, out of 1,201 admissions, but 37. If all of these cases had been equally divided among the eight institutions represented, each would have had four a year. Hardly sufficient certainly to justify the employment of a special female assistant to do the gynæcological work.

The report of the Commissioners in Lunacy of England for the year 1884, the last one to which I have convenient access, shows that during that year 7,233 women were admitted to the hospitals and asylums, public and private, of England and Wales. In 152 of these cases was the insanity said to be due to diseases of women—excluding as above puerperal cases.

Comparisons I know are odious, but what have been the results at institutions partly or wholly under female care, if any, which are in favor of this measure? Have the recoveries, as shown in official reports, been increased in comparison with other State hospitals? What as to other results? Without citing the exact figures it is sufficient to say that a comparison of results is not encouraging.

The figures are at the disposal of any who are curious in statistical matters, in the annual reports of these institutions.

That work in hospitals for the insane offers another field for female endeavor is doubtless true, but should the passage of laws be demanded for that reason compelling such appointments?

The positions already occupied by female physicians are sufficiently numerous in our asylums to afford an opportunity for the exhibition of their abilities, and until a record has been made which can support the demand, the attempt should not be made to force these appointments. In any event superintendents should be left free in the selection of their assistants with, of course, due regard to those in authority over them. If women show that they can fill a corner not yet occupied, can do work not before as well done, that their patients receive at their hands more scientific



and better care, the demand for their services will be greater than the supply.

Some one in urging this measure upon the public made the assertion that women could be procured for the subordinate positions on asylum staffs for less money than even younger and less experienced men would demand. If the work demanded of women assistant physicians is the same as that required of men in the same grade, they should receive the same salary, and such pleas only serve to lower the estimate of their worth. Neither male nor female assistants should be placed on duty without a previous full term of general hospital experience, and their appointment and retention in office should be wholly free from the least suspicion of political interference.

This last suggestion may seem to some, who have never been subject to political pressure, superfluous, but it is well known that in some of our State institutions the medical appointments become the prey of the political spoilsman. In the State, for instance, from which proceeds the cry for gynæcic reform to which I have referred, in some of its institutions a change of administration means a change of officers and employes from superintendent to scullery maid. Perhaps if our critic could find means of introducing more enlightened political methods he might find less need for "asylum reform."

## A FEW PSYCHO-SOMATIC BASE-LINES.

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In dealing with problems of Mind, it cannot be too constantly remembered that our subject matter is not a material entity but a condition accompanying transmutations of a particular kind of matter. Whether the condition is causative, resultant, or merely coincident, we have not at this moment to enquire. The particular kind of matter we call protoplasm. If this matter responds in certain peculiar ways to external stimuli, we say that it is living protoplasm. If the responses are coördinated in a "purposeful" way,—as, indeed, they always are in greater or less degree,—we say that they are manifestations of a mind. As regards the existence of this mind, we have absolutely no other objective evidence than that so afforded. If protoplasm were to lose its power of motion, there is at present no evidence to show that we should have left us the slightest objective manifestation of mentality. Indeed, there are many reasons for supposing that in such an event, mind, as we now know it, would vanish and become non-existent.

The protoplasmic organism impinges upon its environment by way of a few restricted and limited channels of general and special sense. Sir William Hamilton speaks of the environment as a polygon of perhaps a thousand faces, of which we are allowed to be cognizant of only five or six. Such an illustration gives us a vivid realization of the littleness of our lives,—of the utter insignificance of the knowledge which the mind can by any possibility attain. We may well think of the vibrations of matter as practically infinite in number and extent; yet our senses tell us of only a restricted area of the few kinds which they at all recognize. The eye, for example, recognizes certain etherial vibrations of limited rapidity. Artificial aid tells us of associated heat rays, and of actinic rays beyond the spectrum; but of the yet slower vibrations on the one hand, and of the more and more rapid on the other, we know absolutely nothing. And so, *mutatis mutandis*, of the other senses.

But restricted as is this outline of the cosmos, it is the all in all

of the ego. Beyond these narrow limits, the mind can only conjecture, and it were superlative egotism to suppose that its guesses are otherwise than inane. Within the limits of the field regarding which data are afforded us, however, there is abundant opportunity for study and speculation, and within this field modern psychology is exclusively confined.

Mind being regarded as a protoplasm-engendered transmutation of forces, it follows as a corollary of the evolution hypothesis that, since all protoplasm has the same fundamental material basis, mind must be coextensive with living protoplasm. So democratic a proposition as this seems at first thought rather startling, but it is a scientific conclusion deducible, *a priori*, from the evolution hypothesis, and sustained by rigid objective analysis. The evidence in detail we cannot stop to consider; but for our present purpose we may safely assume the fundamental unity and the universality throughout organic Nature, of that subtle life-force which we call Mind.

But it is here necessary to avoid a possible misconception by a few words of explanation. In postulating mentality as a universal accompaniment of living protoplasm, it is not intended to make any assumption whatever as to the range of consciousness. Consciousness is far from being all of mind. Indeed, it is not even paramount, though it is unquestionably pre-eminent when present. Action and reaction between organism and environment have worked out the evolution of the race, and consciousness has been at best a witness, never in any essential sense the artificer. Everywhere in the domain of the higher minds, the conscious merges so into the unconscious (processes once fully conscious coming at last to be entirely automatic) that we find it utterly impossible to fix the bounds. Far more futile, then, would be the attempt to fix the bounds of intellectuality within the limits of universal mentality. We shall attempt, therefore, to deal with problems of mind on a wider basis than that of consciousness, though of course the interpretation, in the nature of the case, must be through consciousness and in terms of consciousness.

Having predicated the fundamental unity of minds, it follows *a posteriori*, that the avenues of entrance of the forces that go to make up the minds must be identical also. This is only another way of saying that similar wholes are composed of similar parts. And in point of fact, we find that the most primitive bit of protoplasm does seem to be affected more or less definitely by all the

kinds of force that make a recognizable imprint on the developed organism. The simplest organism, for example, shows the influence of the light, "gravitating toward it" it may be, or failing to develop except in its presence. We cannot doubt that the ray of light produces a definite molecular change in the tissue of this protozoön. The same ray of light, transmitted to our retina and brain, produces the sensation of vision. It were absurd to suppose that the effect on the primitive organism is anything comparable to this visual sensation, but there seems to be no reason to doubt that the molecular change produced is in each case fundamentally the same.

And so of the other forces which the organism appreciates. Of course tactile sensibility is the most easily demonstrable in the protozoön, this being the prototype of all the differentiated and specialized sensibilities. But as we ascend the organic scale, we find the more exacting needs of a differentiated organism met by the elaboration of the channels of force entrance. Forces that affected the primitive organism vaguely come to affect the developed organism definitely. Generally this is brought about by the development of specialized channels of entrance. The protozoön received all impressions through the same general channel of its entire surface. The developed organism receives most impressions of any particular kind chiefly through a single concentrated channel. The salient result of this definite localization of the force channels is the enlargement of the organism's definite environment. The primitive organism gained definite impressions only from the portion of the environment that it physically touched. The various modifications of these tactile impressions gave it at best primordial sensations that were not only very limited in number and extent but also very vague. But as specialized channels were developed in the long course of evolution, the organism was enabled to reach out, as it were, further and further into the environmental abyss in which it found itself. Olfactory, auditory, and visual channels in succession gave it wider and wider views; and each of these, as it came toward relative perfection, not only enlarged the range of the definitely recognized environment, but increased the definiteness of that already recognized. More than this, we may assume that the relative importance of the organism as self-recognized, dwindled in proportion as it recognized more and more fully the magnitude of the universe in which it lived. In support of this assumption,

we find that the more highly evolved sense channels, in the fully developed organism, furnish the sensations that are less egoistic. A visual sensation, for example, well nigh eliminates egoistic feeling, being almost exclusively perceptive; while in a tactile sensation the element of self-recognition often largely predominates.

And here, almost unawares, we find ourselves speaking in terms of consciousness, and dealing with the developed sense channels. But this need not discomfit us, for it is with these most highly developed conditions that our main purpose deals. We have thus far spoken of what might be termed generic base lines; we have now to look to a few of the specific base lines having to do with the organism and the mind of man, and his nearer allies.

It has been said that all the data of mentality must come to the organism through the medium of the organs of sense, general and special. Nothing that can truly be called knowledge is hereditary. The tissues of the fœtus are so arranged that they are capable of certain responses, but without the external stimulus the responses could never come. Of course a few responses are to pre-natal stimuli: but these, as regards the fœtus, are no less truly external than the stimuli from the wider environment into which birth ushers the infant. Fibres of the organism are so arranged, hereditarily, that certain vibrations from without find more ready entrance than others; but the organism that should shut out all stimuli would be irrevocably mindless, though its hereditary tendencies were otherwise of the best. The congenitally blind for example, can never have a visual percept.

We have already, in a previous paper, dwelt somewhat at length on one theory as to the somatic changes that are involved in the reception of the stimuli which furnish material for the primitive sub-structure of mind. On the psychic side, this fundamental element is commonly spoken of as a sensation or feeling.

Waiving the question as to whether a simple, primary, independent sensation could be self-recognized by the organism, it requires no very searching analysis to make it evident that nothing like a comprehensive ego could come into existence unless the feelings furnished by the different sense channels could be associated, compared and compounded. That such association takes place, to some extent, even in the simplest organisms, the associative movements of such organisms leave no room to doubt; while in the developed mind, such associations are so early and so constantly



found that they often appear to usurp the place of primitive sensations, though of course never really doing so.

Given our primitive sensation, then, as the fundamental substructure of mind, we require the only less fundamental process, association of sensations before the structure can assume space dimensions. If the sensation is the brick of the mental structure, association is the all essential mortar.

But sensations and associated sensations that persisted only so long as the external stimulus acted upon the organism, could constitute at best only an evanescent and constantly shifting mentality,—an ego that lived in the present, with no appreciation of Time, no such concept as Past or Future. In order that the ego shall assume dimensions in time as well as space, it must come to pass that the original sensations, simple and associative, can be reproduced and made relatively permanent in consciousness. But we have all along assumed that the organic changes of which the psychic conditions are the accompaniments, are permanent molecular changes, and that the fact of a nervous impulse having traversed a particular channel makes it easier for a similar impulse to retrace the same channel. Now since structure and function are correlatives, it is evident that this assumption involves the predication of the capacity for practically indefinite reproduction of the psychic conditions also. In terms of consciousness, this psychic reproduction is spoken of as Memory.

Three fundamental capacities are thus presented to us as furnishing the groundwork of Mind:—(1) a receptive capacity; (2) an associative capacity; and (3) a reproductive capacity. These three fundamental capacities furnish us an outline of the entire field of subjective mentality. But it is manifest that, however active the subjective condition builded with these elements, the organism could never objectively manifest the slightest trace of mentality unless it were granted one further elementary capacity—the power to react upon its environment. Such a responsive capacity, however, is manifested at the very bottom of the organic scale. The protozoön has not only receptive irritability but a responsive irritability. Indeed, the former is only inferred from the manifestations of the latter. Hence it seems that this reactive capacity is quite as elementary and universal as the other properties just noted. To complete our synopsis, therefore, we must grant the mind-engendering organism: (4) a responsive capacity.

It has already been pointed out that this responsive capacity

occupies quite a distinct position from the other fundamental capacities noted. Through its manifestations we infer not alone the nascent mentality of the protozoön, but the developed mentality of our fellow-men. Each mind would be an absolutely isolated subjective existence but for the responsive capacity which enables organisms about it to send out stimuli, which coming to its receptive centres, and being there associated and compared with other reproduced impressions, enable it to draw the inference—which at best is only an inference—that these other organisms are possessed of subjective conditions comparable to its own ego. The inference is as fair and as necessary in the one case as in the other. The responses of the lower organism are simple, direct, immediate: we infer the existence of relatively uncomplicated nervous changes and of a concomitant simple mentality. The responses of the developed organism are complex, indirect, postponed (accumulative); we infer the existence of complicated nervous changes and of a concomitant heterogeneous mind. In each case, we perceive the responsive action; in neither case do we perceive the mind. For that, we look within ourselves. Subjective knowledge of mind is the only authoritative knowledge. Yet all our alienistic studies will prove no one thing more vividly than the woful incompetence of the ego to judge itself. Objective knowledge must check the subjective. The two must dove-tail or the mental structure is not stable.

The present paper will deal with the subjective processes and their supposed organic accompaniments. According to the foregoing analysis, the outline above given should contain, synoptically, all the possibilities of minds normal and minds diseased. Just at present, we shall have to do chiefly with the normal. But after the discussion as to the unity of mind, it scarcely needs saying that the diseased mind is simply an abnormal mind, and that it should be studied along exactly the same lines followed in studying the normal. Increase, decrease, or perversion of one or many normal faculties will in every case explain the observed phenomena of insanity. But this is by no means equivalent to saying that every such deviation from the normal constitutes insanity. Such an assertion would be very far from the fact. In truth there is no *a priori* standard of sanity or of insanity. Normality merely expresses the average method of sequence of thought in a majority of minds. As regards the broader outlines, the same average standards have, so far as we can judge, pertained throughout the ages of organic existence; but as regards details, changes occur

with almost every generation of humanity. What would be a delusion in one age comes to be a rational concept in the succeeding age. At best, therefore, we have no absolute standard. We can only establish a rather wide path of average tendencies. Nor can we even establish an impregnable barrier along that path. The most staid mind will now and again wander from its bounds. No life is a normal line, but rather a series of broken curves. Only when the average course of a mind lies without the normal path can we consistently class it as an insane mind. Or, to put it otherwise, in modern terminology, a mind that manifests an average degree of harmony with its environment may be called a normal mind; one that fails to so harmonize, is an abnormal mind. Just what constitutes such harmonious action, it is the purpose of the following studies to enquire. The present paper will do no more than examine rather cursorily the data pertaining to the primary synopsis of mind above outlined.

We have first to do with the receptive capacity of the organism. But as we have already dwelt somewhat upon the primary sensations, as regards both somatic and psychic concomitants, we shall here touch upon only a few general deductions. We have seen that the channels of entrance are relatively few, and that even these are greatly restricted as to the character of the stimuli of which they can take cognizance. We have seen, too, that the more specialized the sense-channel as a general rule, the more varied, far-reaching, acute and definite are the data which it affords. It is precisely this definiteness and acuity of manifestation that gives such value to the specialized functions, and makes their channels pre-eminently the ones through which are received the data for higher intellection.

But whether its data be vague or definite, each sense-channel furnishes us with the only possible point of contact, as it were, with one manifestation of energy; and the consensus of sensations thus received is absolutely the only basis of mind as at present understood. The most developed intellect, therefore, is merely an elaborate set of sensations, perceived, reproduced, compounded and recomposed to indefinite degrees of complexity. No psychologist supposes for a moment that the sensation bears any real resemblance to the object which it symbolizes. Nor is it probable that an object produces exactly the same impression on any two different organisms. It must, however, be supposed that the effect is approximately the same on all normal organisms (of

the same class), else there could never have been established such comparative uniformity of mind as that which we now observe. But on an abnormal organism, the effect may be very different. And this fact is of salient importance, because to each organism its own channels of observation furnish the ultimate and only criteria of reality; hence any impulse that impresses itself on the organism as being thus or so will be recorded and considered as received, regardless of the protest of any other mind. Nothing can correct such a faulty sensation except an incompatible sensation received by the same mind through another of its sense-channels. If, for example, I see a cat on the ground before me, I shall believe that the cat is there though an army of people at my side declare that it is not. This dependence on one's own channels of sense was long ago succinctly expressed in the saying that "seeing is believing." With equal truth, but with varying degrees of certainty it may be said that hearing, smelling, tasting and feeling are believing. It is evident that nothing less than self-annihilation would enable the mind to doubt the direct evidence of those senses to which it owes its existence and through which alone it secures its data for acting.

But what if the senses do not harmonize with one another? Suppose that while seeing the cat I put out my hand to touch it and receive no tactile impression. Then I shall at once, if I am rational, let the two sensations take issue against each other, and, throwing in the evidence of the people beside me, outweigh the visual percept and correct the visual sensation, though perhaps not displacing it. Thus the delusion that a cat was before me ceases to be a delusion, though the visual illusion may remain.

But if, on the other hand, when I put my visual percept to the above test, the visual sensation has so wrought on the imagination that touching the imaginary object does not correct the impression first received, but corroborates and adds to it; and if I refuse to accept the evidence of all the other minds as against my own sensations, then clearly I am insane, and my delusion continues as such. But it is equally clear that another element than mere perverted sensation has entered here—an element of perverted association. For unless the visual centres had, by long association, implicated the centres of touch, it is scarcely probable that the latter, however much they might be independently affected, could have given a perverted sensation exactly corresponding to the abnormal visual image. It therefore appears that seeming recep-



tive anomalies are not always primarily errors of the receptive capacity. Indeed, I shall contend a little later, that perversion of the sensibilities as such is seldom or never an uncomplicated existence in disease.

That anomalies of sensation do occur, however, and that they assist in the genesis of delusions, no one doubts. Theoretically, it would seem that the most common perversions would exist in the most highly evolved centres of reception. It is somewhat doubtful as to the warrant which fact gives to this assumption. It is true that illusory sensations, such as flashes of light, are easily produced by many kinds of stimuli applied to the retina, and it may be true that these are the most common of perversions. But the acuity of the visual sensations, to which reference has been made, is a safeguard against deception; and in practice we certainly find that the more vague sensory centres are the ones more often conspicuously affected. Any asylum will show many cases of auditory hallucination to one of visual; and the latter seldom occur except in cases showing evidence of very gross central changes, in the form of tissue lesion or of vascular aberration.

Such, however, is the unity of that harmonious coalition of faculties making up the mind, that it is quite impossible, as we shall see, for any portion to be affected without greater or less implication of the entire hierarchy. We cannot, therefore, speak at all comprehensively of perversions of sensation till we have inquired more fully into the character of associative and reproductive processes. We shall find that these are by far the more common sources of aberration. Primary sensations, pure and simple, lie at the foundation of Mind, and are usually the last portions of the edifice to be affected when the structure topples.

Turning now to the second division of the subject—the association of sensations—we approach a topic of almost limitless extent, into which we shall here glance only in the most general way. Strictly speaking, the primitive sensation with which we have just dealt has no existence in the mature mind. What seems a simple sensation is really a concept made up of wide associations, collocated out of antecedent and simultaneous experiences of indefinite limits. The really primary mental comparison is not an association of ideas, but an association of sensations to form an idea. So exceedingly elementary is this process, however, and so early in the history of the organism is it first accomplished, that the mature mind retains no recollection of its occurrence. What seems a



perfectly new percept is largely a conglomeration of old percepts, and will doubtless occupy, or rather re-occupy long-used channels in the brain, only connecting them in slightly different combinations. So well nigh infinitely complex do these combinations become, that, in the higher regions of thought, we quite lose sight of the primitive sensations, much as we lose sight of the primitive colors that are combined with such marvelous results on the finished canvas of an artist.

Modern studies tell us that each channel of sense—or at any rate each specialized channel—leads to an isolated locus in the central nervous system. But they tell us also of secondary fibres running here and there, in longer or shorter loops, connecting the cells of the different loci together in systems of the most bewildering intricacy. Were it not for the existence of these connecting loops, we would be utterly at a loss to explain the simplest psychological associations. But the existence of the loops renders a proximate explanation relatively simple. The nervous impulse sent to the cell is re-transmitted through the connective channels to other cells, where it meets and commingles with other impulses, and is antagonized or assisted by them. The psychical accompaniment of these processes is, first, a feeling, as the impulse reaches the primary centre; secondly, an association of feelings, as the impulse meets other impulses, transmitted through different cells. The association of feelings is, as we have seen, what is commonly termed a concept; in other words, an idea.

But observe what wide associations are involved in the simplest concept. Suppose, for example, that I hold an apple in my hand. The simplest observation of the apple tells me of form, color, odor, hardness, smoothness, weight; biting into the fruit, I experience the sensation of taste, and at the same moment a peculiar sound greets my ears. Thus all the principal channels of reception have been involved, and impulses have been transmitted to portions of the brain as widely separated as the frontal and the occipital gyri. Yet it is possible to associate all these sensations with such practical instantaneousness that the concept apple shall seem to be an indivisible unit of the mind.

But the unified concept will not remain for an instant an isolated mental entity. Momentarily there come correlative ideas without number, some vague, some definite:—other apples, apple-trees, trees in general, orchards, a particular orchard remembered as the scene of an exploit of my boyhood—and behold, before I am

aware, I am living over again the events of my youth, and my thoughts are as far removed as possible from the apple which gave them the initial impulse, and which I am still unconsciously munching. Thus the simplest concept may serve as a focus leading out through an unbroken series of associations to any and every other idea which the mind has conceived or can conceive. Indeed, each present thought is to every mind such a focal centre, connecting all its past with all its future.

As it is with the mind, so, we must suppose, is it with the accompanying nervous impulses in the central nervous system. In other words, we must believe that every cell in the nervous system—not to look even more widely, as we might do did our subject demand it—is connected, directly or indirectly, with every other cell in that system. There is every reason to suppose that such is really the case. Aside from the *à priori* probability of such connection (based on primordial unity of origin), the observed intricacy of the mesh of connecting fibres, as objectively demonstrable, raises the hypothesis to a high degree of inductive probability. But a simple computation—what might be styled a verbally diagrammatic illustration—will best serve to give tangibility to the assumption.

Let us suppose, for the purpose of this illustration, that each pyramidal cell of the cortex cerebri has six poles, each connecting with another cell, more or less remote. Looking upon each cell as the centre of a concentric series of connecting cells, it is evident that, starting from any given cell, the first associated series will consist of six cells; the second, of thirty cells; the third, of 150 cells, and so on indefinitely. Assuming, to avoid complications, that no two cells of any one series connect with one another, a simple computation shows us that, following no further than a tenth series, between two and three millions of cells are involved. Of course there is no reason why we should stop at a tenth series, and manifestly, notwithstanding the vast number of cells in the brain, we must soon come to a last series, for want of further cells; and this, of course, demonstrates the proposition, every cell being, however remotely, connected with every other cell, by a nerve fibre.

It scarcely needs saying that the above illustration is only very crudely illustrative, and that no such regularity of connection as that assumed could possibly exist in reality. Many cells, for example, have more, and many others less than six poles, and many

fibres are, at any given time, only nascent fibres of connection, passing out from a cell and terminating in neuroglia. But these nascent channels will by and by be actual channels; and, as it is, the number of developed fibres in any adult brain is abundantly sufficient for the purposes of our illustration. Again, no such isolated series as those supposed could really exist; each series of cells, instead of sending out fibres to an entirely different series, would intercommunicate. Thus the ratio would not increase at so startling a rate, and our tenth series of cells might contain only thousands instead of millions. But in the meantime, the intermediate series are much more intimately connected, forming now a most intricate mesh of intercommunication; and as we do not need to stop with a tenth series, or with a hundredth or thousandth, we come at last, just as surely as before, to a last series and a last cell.

But while all the cells communicate with each other, it is not, of course, to be supposed that they all connect symmetrically. On the contrary, it is highly probable that they are gathered in closed groups and clusters, much as are the terminal twigs of the cerebral arterioles. But as the latter communicate indirectly, through the medium of a common trunk, so must the impulse of every nerve cell be given a channel of communication with any other nerve cell in the organism, no matter how different in location or in function. We can believe in no such thing as an isolated nervous impulse, for we know of no such thing as an isolated sensation or idea.

Just how many cells may be involved in the genesis of a primary sensation, no one can definitely surmise. It may be one or one thousand. But at least it is certain, as illustrated by the concept apple, that many series of cells are involved in the somatic changes accompanying the most simple idea. It requires no stretch of probabilities to believe that thousands, and even millions, of cells are energizing whenever the conscious ego experiences an "abstract" thought. The observed number of cells in the cerebral cortex affords abundant warrant for such a supposition. The almost inconceivable elaborateness of the nervous mechanism is well illustrated by such computations as these. They serve, also, to fully allay the fears of any one who has imagined that somatic studies would banish the alluring subtleties that give the charm of esotericism to the dreams of the metaphysician.

The foregoing illustration will be of service to us a little later, when we come to consider pathological conditions of the brain in connection with abnormal associative conditions. For the present

we must leave this phase of the subject without so much as referring to the specific associative conditions furnished by refinement of analysis. Some of these will be touched upon in a succeeding paper. For our present purpose, it suffices that these are conditions of consciousness which our general discussion covers.

The reproductive faculty will here detain us but a moment. It has already been said that memory is merely the psychic accompaniment of a reproduced nervous state. The capacity of different organisms to reproduce nervous impulses varies greatly in degree, governed by the intrinsic qualities of the protoplasm making up the organic system. Tissues that habitually and naturally act with great intensity, and possess great inherent "vitality" or power of resistance to the fatigue of continued action, will store up molecular conditions that long persist and for a long time are capable of being reproduced. The individual having such tissues will be said to have a retentive memory. And of course the reverse holds true of a person whose tissues are of an opposite quality.

But the capacity of the same organism to reproduce different kinds of vibrations also varies greatly. While a number of factors enter into this variation, the essential cause, in the great majority of cases is a very elementary one—a difference in the intensity of the original impressions made by the different stimuli on the nervous centre. The operation of this all important cause is too obvious in its implication to require extended comment here; yet it is often enough overlooked in practice.

Other features of the reproductive capacity—including the question as to whether anything once experienced by the organism is ever truly forgotten—will come up for discussion in the course of the studies having to do with pathological conditions.

The capacity of the organism to react upon its environment, is a fact which we observe constantly, but which we can no more explain than we can the capacity to receive impressions from the environment. Nor is it possible to deal in epitome with the phenomena growing out of this capacity, since they include every act, simple or complex, of every organism. We shall naturally have to deal with abnormalities of conduct a little later, but it is manifestly unnecessary to enter into any discussion of normal conduct here.

Throughout the present paper, broad, generally-admitted outlines have been followed; and specific applications—especially



those involving the acceptance of any particular theory of nervous action—have been purposely avoided. It may not be inappropriate here, however, to very briefly summarize the foregoing conclusions in the light of the molecular theories outlined in the previous papers of this series. It is evident that the vibratory apparatus of the encephalic cell is the portion of the central nervous mechanism that will be first and most intimately involved in the production of the state the mental accompaniment of which is a sensation. Secondly, of course, the cell matrix is involved; and in turn the vascular mechanism. Meanwhile, the impulse is being diffused through the brain over the associative fibres. If we were to name the part most intimately involved in each of the fundamental operations of mind, we might, perhaps, say, the vibratory apparatus in sensation; the vascular apparatus in regulating the limits of association; and the molecular changes of the cell matrix in reproducing the conditions. But it must be understood that, though one or another may predominate in any particular mental act, yet all are involved more or less actively in every act.

We are now perhaps prepared to answer a question with which the previous paper closed—the question as to whether the force which inaugurates the reproductive vibration in a cell comes by way of the blood vessels or of a nerve fibril. Observe that we have to do with the re-production, not with the original production. But this statement really answers the question, for if the condition is a reproduction, it must reproduce the original condition; and this, as we have seen, is always a change instituted *via* the nerve fibril. We must believe that, as there is no such thing as absolute incoördination of thought, there can be no such thing as absolutely incoördinate vibration in the cell fibres of the brain. Such would not be the case if the blood supply could initiate the discharge of the cell. In that event, a perfect chaos of thought-accompanied vibrations might come to pass. For this reason, if for no other, it seems necessary to believe that the initial discharge of the cell matrix can occur only through stimulation of the vibratory apparatus. The vibration transmitted from another cell reaches the cell and inaugurates discharge of the unstable matrix; immediately the blood supply increases and greatly adds to the discharge by freely supplying oxygen. The discharging matrix, reacting on the fibril, increases its vibrations, and a sensation that at first was very vague becomes definitely and vividly reproduced.



Thus our most fundamental ideas of the nature of mind would be overthrown were we to suppose that the cell matrix could be discharged without the initial impetus from the cell fibril. On the other hand, we must believe that its discharge would be inefficient in producing any marked reactionary effect on the fibril were it not at once freely supplied with oxygen. Exactly in proportion to the amount of blood in the brain, therefore, and to the degree of elasticity of the vascular system will be the mind's capacity for wide range of thought and intensity of feeling. In anæmic conditions of the brain, a transmitted vibration will inaugurate discharge of the matrix, but, no excess of blood being supplied, the reaction will be but feeble, and the accompanying sensation will persist only a moment, if, indeed, it becomes sufficiently intense to enter consciousness at all. In conditions of general cerebral hyperæmia, on the contrary, the supply of oxygen will be everywhere abundant, and all the vibrations initiated will tend to emphasis by the blood supply to such a degree that ideas will seem to chase one another through consciousness with startling rapidity and vividness. In the one case, mental sluggishness and a tendency to fixity and singleness of delusional ideas will prevail; in the other, mental activity, vacillation, a seething phantasmagoria of vivid but erratic ideas. But in each case every idea is connected with every other idea by fixed laws of association; and in each case the vibration underlying the idea is directly transmitted over a nerve fibril from another vibrating cell, which in turn received its initial impulse through a series of vibrating fibrils leading back finally, by however complicated a series of channels, to an impulse externally inaugurated—to a vibration from the outer world.

The other question, as to which force-channel operates to raise the cell matrix to a condition of instability after its discharge, is implicitly answered by the above discussion. The nerve fibril being the channel of initial discharge, the alternative (vascular) channel must be the medium of repair. This is consistent with what we have already seen of the function of the vascular apparatus. Serum pabulum from the blood lifts the cell matrix to indefinite degrees of instability, but however unstable it may become, and however free may be the supply of oxygen in the blood, there will be no discharge till the fibril, vibrating, inaugurates decomposing of the molecules of the matrix—much as a parlor match does not ignite with the oxygen about it until by friction or otherwise, heat is supplied and a seeming barrier broken

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down. But in the one case as in the other, once inaugurated the combustion goes on independently of the initial impulse.

Simple as seems the explanation thus outlined, its implications, as will be seen by any one who has followed it thoughtfully, involve no less a problem than that of animal automatism—an alluring *ignis fatuus* that invites to mazes of fancy and of rhetoric, but which moves ever in a circle and leads to no conclusive goal. A proximate solution lies back of such analyses as that just attempted; beyond the proximate lies—the unknowable.

## ON THE PATHOLOGY OF PACHYMEINGITIS INTERNA HÆMORRHAGICA.

### A REPLY TO PROFESSOR SEGUIN.

BY JOSEPH WIGLESWORTH, M. D., LOND., M. R. C. P., LOND.,  
Medical Superintendent Rainhill Asylum; Lecturer on Mental Diseases, University  
College, Liverpool.

In the issue of Sajous' valuable "Annual" for 1889, Professor Seguin has done me the honor to criticize a paper of mine\* on the subject of *Pachymeningitis*, in which the view is maintained that the morbid appearances described under that term, are not the result of inflammation at all, but are solely due to the effusion of blood into the subdural space (arachnoid cavity). Anything from the pen of Professor Seguin will, without doubt, receive the consideration which the eminence of its author commands, and I much regret my inability to coincide with his views; but as all the experience gathered since the publication of my paper has tended to confirm me in the views therein expressed, I am in hopes that a few further remarks may tend a little to remove the difficulties in the way of accepting the hæmorrhagic theory.

In the first place, the remark is made that I have not given "due weight to the lesions of the dura mater itself, and the study of successive layers found in cases of hæmorrhagic pachymeningitis." Now if the lesions of the dura mater have not been evident to me, it has certainly not been for want of looking for them. Indeed one of the strongest arguments against the inflammatory origin of the disease, is, that in the cases which presumably would be looked upon as the most recent and acute, there is absolutely not a sign of inflammation to be seen in this membrane. Scrape the new formation from the surface of the dura and what do we see? The epithelial surface of this membrane is smooth and shining, and exhibits not a sign of departure from health; there is no capillary injection, no softening, no thickening. This condition of things I have seen in so many cases that I am satisfied that it is a correct description. Where then are the lesions? To see these, trivial and equivocal as they are, recourse must be had, not to the

\* "On Hæmorrhages and False Membranes within the Cerebral Subdural Space, occurring in the Insane." *Journal of Mental Science*, January, 1888.



quick, recent cases, but to those of older standing. When the new membrane beneath the dura is commencing to organize, or has already become converted into imperfect fibrous tissue, then vascular adhesions become developed between the dura mater and this new false membrane, and on the separation of these, which can always be readily effected, the inner surface of the dura mater may here and there be a little rough, and later on the membrane itself may be found a little thicker than normal. And this is all that is met with in the great majority of cases at any rate, and be it observed, not even this in the quite recent cases. Is not then the conclusion strongly forced upon us, that the changes, such as they are, are purely secondary, and the result of the irritation of the effused blood, and that they are altogether comparable to those set up in the walls of a vein in which coagulation has occurred.

Then as regards the successive layers, which are not rarely met with, it is difficult to see how this condition favors the idea of inflammatory action as opposed to hæmorrhage. No one calls in the agency of inflammation to account for the successive layers of fibrin met with in an aneurismal sac, to which condition some of the most typical laminated pachymeningitic membranes bear a very close resemblance. If a single hæmorrhage be not sufficient to produce a laminated membrane, what is to prevent a second or a third occurring, the same cause which produced the first continuing in operation? But I am by no means certain that a single hæmorrhage is not capable of producing a laminated membrane, provided the effusion be a pretty free one. Let us see what occurs under such circumstances. The blood, in the first place, has a great tendency to attach itself quickly to the inner aspect of the dura mater, and coagulating the fibrin, tends to precipitate itself more especially on each surface of the clot, so that the membrane which speedily forms exhibits on section a central dark core, bounded by paler lines which appear to consist mainly of fibrin and leucocytes. This was so well understood in a case which recently came under observation, that it will be well to give a brief description of it.

A female, aged twenty-eight, who was well advanced in the second stage of general paralysis, was seized one morning with severe convulsions, which affected the left side of the face and the left upper extremity, the head and eyes being strongly directed to the left; the convulsions returned at intervals

of a few hours, and between them the left arm was found to be completely paralyzed, and the head and eyes were directed to the right; there was also some diminution of power in the left leg. The temperature rapidly rose, and soon attained  $105^{\circ}$ . On the third day it was found, in addition to the other symptoms, that the right arm was strongly flexed at the elbow, drawn up towards the shoulder and kept rigid. The convulsive attacks first described continued at intervals, and the patient died seven days from the first onset of them. It is worthy of note that the patient retained a certain amount of consciousness up to the night before she died. At the autopsy the following conditions were found: spread over the inner surface of the dura mater on the left side, occupying the greater portion of the convexity but not dipping down into the fossæ, was a hæmorrhagic lamina about 2 mm. in thickness, which was loosely attached to the dura mater, from which it could readily be peeled off, leaving the inner surface of this membrane smooth and shining, and free from all trace of inflammation; the new lamina was for the most part red, or reddish black. On section it showed a dark red centre, bounded on each side by pale lines, which were obviously simply the condensed surfaces of the clot; the pale boundary line faded away gradually in the rest of the clot and could not be detached therefrom. On the right side there was a similar but more extensive membrane, and one of evidently older date; this occupied not only the convexity, but dipped down into the anterior middle and posterior fossæ. At its thickest part it measured from  $3\frac{1}{2}$  to 4 mm., and was for the most part chocolate brown in color; it was also much more clearly separated into two membranes than the one on the left side; the chocolate brown centre was bounded both on the surface next the dura mater and that next the arachnoid by a pale portion which could in each case be torn off in strips from the chocolate colored portion, showing that the fibrin had already commenced to form into distinct membranes; not only so, but after stripping (as far as possible) this fibrinous layer from the arachnoid surface of the clot, there was found beneath this a tendency for the fibrin to form another membrane, it being formed into flakes parallel to the surface, but not as yet constituting a distinct membrane. In the meshes of the chocolate brown centre was contained some grumous-looking material and a considerable quantity of reddish serum, which escaped as the clot was cut through. The lamina was a little more adherent to the dura mater than was the one on the left side, but it

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could still be stripped off with ease, leaving the inner surface of the dura slightly rough in places, but for the most part smooth. The brain weighed 1,195 grammes, and the surface of the right hemisphere—both the soft meninges and the gyri themselves—were stained of a dirty coppery tint from imbibition of blood colouring matter.

Now in this case we had a distinct demonstration of the way in which a so-called "arachnoid cyst" is formed from a simple effusion of blood, the process being represented in different stages on the two sides. The pale fibrinous surfaces of the new hæmorrhagic membranous formations were beyond question simply the condensed outer surfaces of a clot, and had the patient lived a few weeks instead of seven days we should have found these fibrinous surfaces thicker and more developed, and the space between these occupied with coloured serum; at a later date the serum would have become absorbed, the fibrinous surfaces would have come into contact, and a laminated membrane would then have been left.\* There was the further advantage in the above case, that the date of formation of the new hæmorrhagic membranes could be accurately fixed. The larger and more advanced one on the right side, was without doubt occasioned by a copious effusion of blood seven days before death, the effusion being signalized by left-sided convulsions, followed by paralysis; whilst the less advanced and smaller left-sided membrane doubtless corresponded to a smaller hæmorrhagic effusion on the left side three days subsequently at the time that the signs of irritative contracture of the right arm set in.†

A case such as that just described differs from one in which a thin, reddish, filmy membrane is found spread over the inner surface of the dura mater, simply in the fact that in the former case there has been a *large* effusion of blood, in the latter a small one.

In further criticism of my paper, Seguin observes, "nor does he in any way point out how the blood is effused according to his theory, thus avoiding two serious dilemmas. If the blood were to leave from the meningeal arteries strictly speaking it would have to lie between the dura mater and the bone; if from the cortical vessels of the pia (which we are led to infer is the case) there should always be traces of subarachnoid hæmorrhage, which we do not

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\* The laminated membranes are probably in some cases produced somewhat after this fashion, and in other cases by two or more distinct hæmorrhagic effusions.

† The source of the hæmorrhages was not traced.

find." The reply to this is two-fold. It is a matter of fact that in some cases blood is found in the cerebral subdural space without any traces of subarachnoid hæmorrhage, and without the presence of any trace of membrane on the inner aspect of the dura mater; whilst in other similar cases there *are* traces of subarachnoid hæmorrhages. What then is the source of the bleeding? It may at times come from the large veins which open into the longitudinal sinus, but it is more probable that in the majority of cases it comes from the small vessels of the pia mater which occupy the summits of the gyri. And there seems no difficulty in conceiving why such vessels occupying the summits of the gyri, should rupture directly through the arachnoid into the subdural space without first diffusing their contents through the subarachnoid space, when we call to mind the intimate union which frequently exists between these membranes in many cases of insanity. In most cases of general paralysis indeed the union between pia mater and arachnoid over the summits of the gyri is in many places so intimate that the two veritably constitute one membrane, and in bursting directly through this membrane into the arachnoid cavity the blood would doubtless be following the lines of least resistance. The same reasoning shows that if diffusion beneath the arachnoid did occur at all, as it might in some cases, such diffusion would probably be slight, and hence the traces of it would be liable to be quickly obliterated. That such is the source of hæmorrhage in some cases is proved absolutely by the following case which has very recently come under my notice: A female general paralytic, aged 31, had passed through the usual stages of disease and died of gradually progressing asthenia. At the autopsy the following condition of things was disclosed. On reflecting the dura mater there was found on the left side, a recent blood clot loosely attached to the under surface of the dura mater. The central part of this clot, which was black, and of quite recent origin, occupied an area roughly speaking, about the size of half a crown, and its margins extended in the form of a reddish scarcely coherent lamina, for about three-quarters of an inch further; this outer portion was obviously simply the squeezed out margins of the central clot which was as it were simply stuck on the dura mater, and no part of it could be detached as a distinct membrane. The inner surface of the dura mater was perfectly smooth and healthy, and there was absolutely no trace whatever of any membrane from which

the blood could have proceeded. The thickest part of the clot was situated over the posterior part of the second frontal convolution, and at a point exactly corresponding to this at the posterior end of the second frontal gyrus there was a small linear hæmorrhage lying beneath the arachnoid, 9 mm. in length by about one in breadth; at each end of this hæmorrhage a small ruptured point could be clearly seen and at the bottom of the minute orifices thus formed the tiny subarachnoid clot was exposed. Around this area for a short distance the pia mater was injected. The brain weighed only 778 grammes.

This case is most instructive, for it proves clearly that the source of hæmorrhage was a vessel of the pia mater occupying the summit of the second frontal gyrus; it shows also how very slight a tendency there was for the blood to diffuse itself beneath the arachnoid, for though the blood had thus spread for a space of only 9 mm. by 1 mm., it had already forced its way in two places through the arachnoid into the subdural space, where it had formed a clot of some size. Had the case not come under notice at such a very early stage (certainly within twenty-four hours of the date of the hæmorrhage) the slight trace of subarachnoid hæmorrhage would speedily have been obliterated and we should have had a thin filmy hæmorrhagic membrane on the inner surface of the dura mater and nothing to show the source of the hæmorrhage.

The case also illustrates the rapid tendency there is for blood effused into the subdural space to form a clot attached to the inner surface of the dura mater, for here all the blood effused had taken this course, there being none lying on the surface of the arachnoid. The case, moreover, gives a further demonstration, if this were needed, that clotted blood may be found upon the inner surface of the dura mater without any trace of a pre-existent pachymeningitic membrane.

One further quotation must be made from Professor Seguin's criticism. "He also utterly ignores the pathology of the disease in perfectly sane persons, which would overthrow his theory of loss of support by atrophy of convolutions." It is one of the disadvantages of asylum practice that opportunities for autopsies upon sane individuals rarely occur, but if we are to judge from the paucity of records on the subject the disease under such circumstances must be exceedingly uncommon. Gower\* states that "the rarity of the affection at any rate outside asylums may be

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\* Diseases of the Nervous System, Vol. II, p. 294.

judged from the fact that during the forty years in which the Pathological Society has received the curiosities of metropolitan necroscopy, not a single specimen has been brought before the Society from any London hospital."

The only malady other than insanity with which this affection has been found associated at all frequently is chronic alcoholism, a condition which is indeed closely allied to insanity, and one which has brain atrophy as a marked concomitant. It must not be forgotten, however, that a certain amount of brain wasting occurs in exhausting diseases such as phthisis and fevers without being associated with what one would ordinarily term insanity, and that there is a tendency for the same change to occur as age advances.

Really I think it is time for the advocates of the inflammatory theory to offer a little more proof in the support of their position than has hitherto been the case.\* When we contrast the constant and obtrusive signs of hæmorrhagic effusion with the absence, or inconclusive evidence, of inflammation; when we recognize, as we must, that such effusions frequently occur without being associated with any trace of a pre-existing membrane from which (according to current doctrine) they ought to have been derived; when we study such a case as that above cited, where the source of the hæmorrhage was distinctly proved to have been a vessel of the pia mater; when further we contemplate the period of life at which these cases occur, and their association in such overwhelming preponderance with brain degeneration and atrophy; we get an array of evidence which is not to be lightly put aside, but which must be duly accounted for by any pathological theory claiming to be heard in this matter.

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\* What is here denied is not the possible occurrence of a true pachymeningitis of the cerebral dura mater, but that the conditions which usually pass under that term have any right to be called by such a title.



## RECENT LEGISLATION FOR THE INSANE IN THE STATE OF NEW YORK.\*

BY CARLOS F. MACDONALD, M. D.,  
President of the State Commission in Lunacy.

The history of legislation in the State of New York during the past two years includes the enactment of several measures which, it is believed, will be of interest to all who are engaged, directly or indirectly, in promoting the welfare of the insane, or who feel an interest in the advancement of real reform in the management of institutions for the care and treatment of that large and increasing class of suffering humanity. The number of insane and persons of unsound mind in legal custody in the State of New York to-day is, in round numbers: Insane, 16,000; idiotic, 1,150, making a total of 17,150. The number of the former represent about one-tenth of all the insane in custody in the United States, and are distributed, approximately, as follows: In the seven state hospitals, 5,870; in the large asylums of New York, Kings and Monroe counties, 7,275; in licensed private institutions, 20 in all, 820, and in county poor-houses, representing about 45 counties, 2,060. Of the idiotic and feeble-minded there are in the State Idiot Asylum at Syracuse and the State Custodial Asylum for feeble-minded women at Newark, about 800, and in the Randall's Island Idiot Asylum, 325.

The administration of a branch of the public service of such magnitude as is represented in the above, involving the expenditure of vast sums of money (the seven state hospitals now in operation alone representing a permanent investment of \$7,600,000, and an annual expenditure for maintenance of, approximately, \$1,100,000), and the solution of the many grave problems relating to methods of management which constantly arise, may well excite the interest and command the serious consideration of the political economist, the taxpayer, the humanitarian and even the humblest citizen of the Commonwealth.

The lunacy legislation which has been enacted in the State of New

\* Read before the Society of Medical Jurisprudence and State Medicine, New York City, December 11th, 1890; also, in part, before the Association of Medical Superintendents of American Institutions for the Insane, at Niagara Falls, June 10-13, 1890.

York during the past two years, and to which I shall specifically refer, must be regarded as a substantial recognition by the people of the necessity of placing the relations of the State to its insane upon a more comprehensive basis than had before obtained; and also of adopting a policy which eventually shall completely separate the insane from other objects of the State's charities, thus securing for all of this class of dependents a more enlightened and humane system of treatment and care, than many of them have heretofore received, and also affording greater protection against possible abuse and wrong in their commitment, custody and control.

The legislation referred to embraces the following:

1. Providing for extension of State Hospital Accommodations.
2. Creation of a State Commission in Lunacy.
3. Providing for the removal of the insane from County poor-houses to State Hospitals.
4. Changing the corporate title of the respective State institutions for the insane to that of State hospital, thus recognizing and establishing the hospital idea.
5. Providing for the employment of a female physician at each State hospital, as an adjunct to the regular medical staff.

Provisions for extension of State hospital accommodations now in process of erection, or recently completed, are as follows: A new asylum for insane criminals at Matteawan, Dutchess County, to accommodate 450 patients, will probably open for its full capacity within a year. The St. Lawrence State Hospital, at Ogdensburgh, to accommodate, when completed, 1,500 patients, will open for about 150 this year. A new wing at the Buffalo State Hospital to accommodate 150 patients, will be completed for occupancy within the next year. At the Poughkeepsie State Hospital, a group of detached buildings, to accommodate 500 patients, is now completed and partly occupied. At the Middletown State Homœopathic Hospital, a detached building to accommodate about 150 patients has just been completed. At the Binghamton State Hospital, a detached building to accommodate 100 patients is about ready for occupancy, thus making an increase of 1,500 in the total capacity of State hospital accommodations.

Chapter 283 of the laws of 1889, as amended by Chapter 273 of the laws of 1890, entitled "An act to establish and organize the State Commission in Lunacy and to define its duties," aims to provide for an independent governmental supervision of the insane

and of all the institutions, both public and private, devoted to their custody. Without such supervision it is now generally believed that no system for the care of the insane should be considered complete. The necessity for this supervision has a two-fold aspect.

*First.* It is a well established principle that the insane and idiotic require, in a sense which applies to no other class of individuals, the fostering care and guardianship of the State. Being afflicted by a disease which essentially deprives them of reason and self-control, they are different from the victims of any other malady, in that, as a rule, their treatment and personal safety, as well as the protection of society, necessitate their commitment by statutory process to institutions especially established for their custody and care. And when we recall the fact, which is well known to all who are practically familiar with the subject, that the delusion most commonly entertained by the insane is that they are not insane, we are not surprised at the keen sense of injustice which they often manifest when deprived of liberty and placed in legal custody. The State having made statutory provision for the commitment and detention of the insane, is in duty bound to so regulate and supervise that commitment and detention, that no insane person in custody shall suffer wrong or abuse; also to guard against the possibility of wrongful commitment or detention.

*Second.* The fact that the nature of the disease necessitates the deprivation of the liberty of its victims by legal process, not, however, as a punishment, but as an incident to the treatment of their disease, in no sense impairs their right to that privacy and freedom from public intrusion which, by common consent and time-honored custom, is sacredly accorded to the sufferers from other forms of illness. Hence, hospitals for the insane are necessarily to some extent closed to the general public, a fact which unfortunately often tends to create in the public mind a feeling of suspicion regarding their management. This feeling, which in some quarters amounts to a belief, is frequently strengthened by the plausible allegations of neglect or mal-treatment made by unrecovered patients, many of whom entertain impressions of abuse which they claim to have suffered, and which impressions may or may not have a basis of truth, though, as a rule, their origin may be traced directly to a morbid mental state.

The State having provided for the establishment and licensing of these institutions is in duty bound to maintain a systematic

supervision of their management and conduct, both in order to prevent abuses therein and to afford assurance to the public that their inmates are humanely and properly treated.

It is now generally accepted in all enlightened communities that the most effective safeguard against real wrongs in these institutions, as well as the best protection of the institutions themselves from unjust suspicion on the part of the public, may be had through the agency of an independent board empowered to exercise, in its discretion, almost unlimited supervisory and visitorial jurisdiction and to remedy abuses whenever and wherever such are found to exist.

The State of New York adopted the policy of State visitation of the insane in 1867, by the creation of the State Board of Charities, at a time when the number of insane in custody was only about 3,000, and there was but one State asylum, that at Utica, in operation. In 1872, a Commission was appointed by Governor Hoffman to investigate the condition of the insane of the State, allegation having been made of abuses in their treatment in asylums. This Commission strongly recommended the appointment of a specially qualified medical officer, to be known as the State Commissioner in Lunacy, whose duty it should be to examine into and annually report to the Legislature upon the condition of the insane of the State, and of the management and conduct of the institutions for that class, there being at that time about 5,000 insane in custody, and two State asylums in operation, viz.: at Utica and Willard, each containing about 600 patients.

During the intervening seventeen years, 1873-90, the insane and idiotic in custody have increased from 5,000 to upwards of 17,000 and the number of State asylums or hospitals to eight;\* the largest of which has about 2,000 inmates. The number of private hospitals for the insane has also increased until there are now fifty-four separate institutions in which the insane are confined, inclusive of 19 so-called county asylums which, until this year, were legal receptacles for insane, under authority granted by the State Board of Charities, and exclusive of upwards of 25 poor-houses, in which more or less insane are still confined. Meantime, provision for supervision of the insane and of the management of these institutions remained unchanged, and was wholly inadequate to meet the requirements of this large, important and

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\*The St. Lawrence State Hospital received its first allotment of patients December 9, 1890.

increasing branch of the State service, until the act of last year.

England, Scotland and Ireland, foremost among nations in the matter of intelligent and humane care of their insane, all have Boards of Lunacy Commissioners with large jurisdiction over all manner of institutions for the care and treatment of the insane. Pennsylvania has a Committee on Lunacy, consisting of five members, including a physician and a lawyer; Vermont has three "Supervisors of the Insane," two of whom are physicians; Iowa has a State Visiting Committee of the Insane, while quite a number of other States of the Union, notably New Hampshire, Massachusetts, Rhode Island, Ohio, Michigan, Illinois, Wisconsin, Minnesota, Maryland and Alabama have provided for official supervision of their insane by lunacy commissioners, or State boards having similar powers and jurisdiction.

The law of 1889 establishing the New York State Commission in Lunacy is designed to provide for the independent visitation and supervision of all the institutions in the State, in which the insane or persons of legally unsound mind are in custody. The following analysis will show its special features:

Sections 1 to 6 provide for the appointment, by the Governor, with the advice and consent of the Senate, of three commissioners, (a physician, a lawyer and a layman) who shall hold their offices for six, four and two years, respectively; subsequent appointments to be for six years. This provides for a biennial appointment of a new commissioner, secures stability, and yet admits of change of membership.

The medical commissioner, who is constituted the president of the board, is required to be a reputable physician, a citizen of the State and a graduate of a legally chartered medical college, of at least ten years' experience in the active practice of his profession and practically familiar, by experience, with the care and treatment of the insane and the management of institutions for that class. The legal commissioner is required to be a reputable member of the bar, of at least ten years' standing, and a citizen of the State. The third member is required to be a citizen of the State, of reputable character and presumably of business experience.

Section 6 locates the office of the Commission in the State Capitol at Albany and provides for the appointment of a secretary, a stenographer and such other employes as may be deemed necessary.

Sections 7 and 8 provide for the establishment, in the office of



the Commission, of a bureau of registration of all judges in the State who are empowered by law (courts of record) to approve medical certificates of insanity, or to make an order for the commitment of an insane person to custody; also of the name and residence of each medical examiner in lunacy qualified in accordance with the laws of the State\*; and it is made the duty of every such physician to file in the office of the Commission a certified copy of his certificate of qualification within ten days after such certificate is granted. The Commission is also required to cause a registration in its office of all the insane in custody in every asylum, public or private, home or retreat in the State. These records to include name, sex, age, nativity, occupation, civil condition, physical state, date of commitment, names of signers of the medical certificate, and of the judge approving such certificate, the asylum or institution to which the insane person was conveyed, the date of admission and whether brought from home, or an institution, and by whom brought; and, subsequently, the date of discharge of each patient and the condition when discharged, that is, whether recovered, improved or unimproved; and,

\*CHAP. 446, LAWS OF 1874.

§ 2. It shall not be lawful for any physician to certify to the insanity of any person for the purpose of securing his commitment to an asylum, unless said physician be of reputable character, a graduate of some incorporated medical college, a permanent resident of the State, and shall have been in the actual practice of his profession for at least three years. And such qualifications shall be certified to by a judge of any court of record. No certificate of insanity shall be made except after a personal examination of the party alleged to be insane, and according to forms prescribed by the State Commissioner in Lunacy (State Commission in Lunacy), and every such certificate shall bear date of not more than ten days prior to such commitment.

CHAP. 283, LAWS OF 1880, AS AMENDED BY CHAP. 273, LAWS OF 1890.

§ 7. The said commission shall keep in its office records showing the names and residences of all judges in this State, who are empowered by law to approve medical certificates of insanity, or to make an order of commitment of an insane person to custody; and also a record showing the name, residence and certificate of each medical examiner in lunacy qualified in accordance with the laws of this State; and it is hereby made the duty of each medical examiner in lunacy at the time of the passage of this act, to forward to the State Commission in Lunacy a certified copy of his certificate of qualifications. Hereafter it shall be the duty of every physician who receives a certificate as a medical examiner in lunacy in this State to file such original certificate in the office of the clerk of the county wherein he resides, and to forward a certified copy thereof to the office of the commission within ten days after such certificate is granted; and said commission shall cause the said certified copy of said certificate to be filed as soon as received and shall promptly advise said physician of the filing thereof in writing. One year after the date of the passage of this act (May 14, 1889,) it shall not be lawful for any medical examiner in lunacy to make a certificate of insanity for the purpose of committing any person to custody unless a certified copy of his certificate has been so filed and its receipt in the office of the commission (State Commission in Lunacy) as above provided has been acknowledged.

if not recovered, to whose custody discharged; if transferred, the cause of the transfer, and to what institution transferred; and if dead, the cause of death. These records shall be accessible only to the Commissioners and their secretary and clerks, except by order of a court or the consent of one of the Commissioners in writing.

Section 9, requires the authorities of institutions for the insane to furnish to the Commission the above facts in relation to each person now or hereafter in said institutions, and such other facts obtainable as the Commission may from time to time demand. Further, that every superintendent or keeper of an institution for the insane, whether public or private, shall, within ten days after the admission of an insane person to such institution, cause a true copy of the medical certificate or order on which such person shall have been received, together with such other facts as may be required by the Commission, to be forwarded to the office of the Commission; also to report all discharges, transfers or deaths within three days after their occurrence.

Section 10, empowers the Commission, at any and all times, to examine into the condition of asylums, both public and private; to inquire into the methods of government and the care and treatment of their inmates, to examine the condition of the buildings, grounds and other property connected therewith, and into all other matters pertaining to their usefulness and good management; and for these purposes they shall have free access to the grounds, buildings, and to all books relating to said institutions; and all persons connected therewith are directed and required to give such information and afford such facilities of inspection as the said Commissioners shall require.

Section 11, provides for semi-annual visitations, to be made on such day or days and at such hours of the day or night, and for such length of time as the visiting Commissioners may choose. They shall, so far as they may deem necessary, inspect every part of each asylum and institution, and every outhouse, place and building communicating therewith or detached therefrom, and every part of the grounds or appurtenances held, used or occupied therewith; also all the records and all the methods of administration, the general and special dietary, and the stores and methods of supply. They shall, as far as practicable, see every patient then confined therein, giving each one suitable opportunity to converse with them or either of them, apart from the officers and attendants.

They shall also, if deemed necessary, examine the officers, attendants and other employés, and make such inquiries as will determine their fitness for their respective duties; and shall from time to time meet the managers, trustees or other responsible authorities of each institution, or as many of the number as practicable, in conference, and consider in detail all questions of management and improvement of the respective institutions, entering the results of the examination, together with such recommendation as they may deem necessary for the better management of the institution, in a book to be provided by the institution, and known as the "Commissioners' Visiting Book;" they shall also make such rules and regulations regarding the correspondence of the insane in custody as in their judgment will best promote their interest; and the officer in charge of each institution, public or private, must comply with and enforce said rules and regulations.

Section 12, provides that no person or association shall establish or keep an institution for the care, custody or treatment of the insane, or persons of unsound mind, for compensation or hire, without first obtaining a license therefor from the State Commission in Lunacy; except in cases where an insane person or person of unsound mind is detained and treated at his own house or that of some relative. Every application for such license shall be accompanied by a plan of the premises proposed to be occupied, a description of the buildings, the extent and location of grounds appurtenant thereto, and the number of patients of either sex proposed to be received therein; together with such additional information as the Commission may require; and it shall not be lawful for said Commission to grant any such license without first having caused an examination, by one of its number, of the premises proposed to be licensed, and being satisfied by such examination that they are as described, and are otherwise fit and suitable for the purposes for which they are designed to be used. It shall be the duty of the Commissioners at their first visit to each institution licensed in accordance with the laws of the State, to have the care, custody or treatment of the insane, or persons of unsound mind, to examine the terms of the existing license and determine how far the institution is conducted in compliance with said license; the Commission shall have power to continue, amend or revoke any existing license as, in its opinion, the interests of the insane in the respective institutions demand.

Section 13, provides that in all cases where the Commission has

reason to believe that any person is wrongfully deprived of his liberty, or is cruelly, negligently or improperly treated in an asylum or institution for the custody of the insane, or where inadequate provision is made for the skillful medical care, proper supervision and safe-keeping of the insane, it shall order an investigation of the facts in the case by one of its members; the Commissioner conducting such inquiry is empowered to issue compulsory process for the attendance of witnesses and the production of papers, to administer oaths and to exercise the same powers as belong to referees appointed by the Supreme Court. If the facts or allegations shall be proved to the satisfaction of the Commission, or a majority thereof, the Commission is empowered to issue an order in the name of the People of the State, and under its official seal, directed to the superintendent or managers of such institution, requiring them to modify such treatment or apply such remedy, or both, as shall therein be specified. But before such order is issued it must be approved by a Justice of the Supreme Court. Any person to whom such an order is directed who shall wilfully refuse to obey the same, shall, upon conviction, be adjudged guilty of a criminal contempt. Whenever the Commission shall undertake any investigation into the general management and administration of any asylum or institution for the care and custody of the insane, it must give due notice thereof to the Attorney-General, whose duty it is to appear at such investigation personally, or by deputy, in behalf of the people, and examine all witnesses who may be in attendance thereat.

Section 14, authorizes the Commissioners to examine witnesses under oath, to make and use an official seal for the authentication of documents in its custody, to be used as evidence in all courts and places in the State.

Section 15, makes it the duty of the authorities of all institutions for the insane to provide a "Commissioners' Visiting Book," in which the Commissioners are to enter their notes of inspection, together with such recommendations as they may deem necessary.

Section 16, requires the superintendent of every institution within one week after the dismissal of any officer or employé to report the same in writing to the office of the Commission, together with the cause thereof.

Section 17, requires the superintendent of every institution where insane are kept to report to the Commission, on or before November 1st in each year, the number and sex of insane, idiotic

and epileptic in custody on the 1st day of October preceding, together with a statistical exhibit of the number of admissions, discharges and deaths that have occurred within the year, the condition of those discharged, the causes of death, and such other facts as the Commission may require. Any one neglecting to so report shall be guilty of a misdemeanor.

Section 18, requires the Commission to annually report to the Legislature, in detail, its acts, conclusions and recommendations.

Section 19, empowers the Commission to make such rules and regulations governing the correspondence of the insane in custody as in its opinion will best promote their interests; and the officers of institutions are required to comply with and enforce such rules and regulations.

Section 20, relates to the granting of exemptions to counties to care for their own insane. This section has practically been repealed by the State Care Act.

Section 21, transfers to the Commission all powers and duties heretofore conferred upon the State Commissioner in Lunacy and abolishes the latter office. These powers and duties include, among others heretofore enumerated, authority to prescribe necessary forms for certificates of qualifications of medical examiners in lunacy, certificates of lunacy, &c. These forms obviously have all the force of law; and the commitment of a lunatic by uncertified examiners, or under forms of medical certificates other than those prescribed by the Commission would be illegal, and, if discovered, it would be the duty of the Commission to direct such lunatic's immediate discharge from custody.

From the foregoing it will be seen that the supervisory and correctional powers of the Commission, as regards the insane and the management of institutions for their care and treatment are practically unlimited, being probably greater than has heretofore been conferred by the legislature upon any similar body in any department of the State government. It is not only authorized to determine the legality of original confinement in an institution for the insane, whether on the ground of non-existence of insanity or of defect in the form of commitment, or of continued detention after the necessity for it has ceased to exist, by reason of recovery; but it may summarily remedy any wrong of this kind which it may find. It may also, in its discretion, determine the standard of medical care, the number of attendants, the diet, clothing, discipline, forms of records and



accounts, rules and regulations, &c., of any institution for the insane. In fact, it may regulate and supervise everything which, in its judgment, is essential to the proper care and treatment of the patients, and the promotion of their welfare. And in the event of disobedience of an order which it may issue, with the approval of a Justice of the Supreme Court, for the correction of any existing wrong, it may immediately proceed to enforce the same by peremptory mandamus.

The new Commission has now been in operation about eighteen months, during which time, in addition to the work of visitation and inspection, and the multitude of details incident to its organization, both of which have involved a vast amount of time and attention, it has secured a registration in its office of all qualified examiners in lunacy and of all committing magistrates; also a complete registration of all of the insane in legal custody in the State, together with a certified copy of the lunacy certificate or commitment in each case. A large number of insane persons were found in the various institutions without certificates, or held under defective certificates. These the Commission has required to be examined in order to legalize their detention, and for the first time in the history of the State it is now possible to obtain reliable data as to the number and classification of the insane in custody.

New, and, it is believed, improved forms for certificate of qualification of medical examiners in lunacy, and for lunacy certificates for the commitment of the insane, have been prescribed and are now in successful operation; also new forms of accounts, case-books, records of admissions, discharges, deaths, post-mortems, medical prescriptions and daily reports, which forms shall be uniform in all the State hospitals, have been adopted. So that it will soon be possible, for the first time, to make an intelligent comparison of these institutions, with reference to their relative results in the matter of expenditures, per capita cost, percentage of cures, deaths, &c. Heretofore it has happened that one hospital has incorrectly proclaimed a higher ratio of recoveries and a lower ratio of deaths than those of any other institution, by estimating its ratio of recoveries on the number discharged, and its ratio of deaths on the whole number treated, methods which, it need hardly be said, are calculated to show, on the one hand, the highest percentage of cures, and, on the other, the lowest percentage of deaths; whereas, in the other institutions these

percentages are properly estimated on the average daily population.

The Commission has also secured the adoption by the Civil Service Commission, with the approval of the Governor, of new rules governing the appointment and promotion of medical officers in the State hospitals, which it is believed will tend to secure the highest standard of efficiency in that branch of the service. It has also directed that attendants in all the institutions, except the small private hospitals, shall wear a distinctively uniform dress, both as a badge of office and to elevate the dignity of this class of employes. It should be said that this practice had already been satisfactorily adopted in several of the State and City institutions.

The Commission has made and promulgated orders in relation to—1, A method of transferring patients from one institution to another without re-examination and renewal of certificate; 2, Making a uniform rate of charge per week to counties for maintenance of public patients. (For each patient in continuous custody under the commitment by which he is held, \$4.25 per week, for the first three years or less, and \$2.50 for any length of time beyond three years, the charge to include food, clothing, breakage, and all other expense of any kind.) 3, Instructions to superintendents of the poor in the matter of the transfer of public patients from their homes or from almshouses to State hospitals. (All patients to be in a state of bodily cleanliness, to be provided with a complete new suit of outer and under clothing, including head-wear, boots or shoes; also, between the months of November and April, inclusive, gloves or mittens and suitable overcoats for men, and shawls for women; patients not to be compelled to travel in smoking or baggage cars, except in case of men who are so violent, profane or obscene as to render their presence in ordinary coaches offensive; the shortest route to be selected and hour of departure so timed as to avoid the necessity of either spending the night *en route* or of arrival at the hospital at an unseasonable hour; and, if necessary to remain over night or for any length of time on the way, patients not to be taken to jail or police station; violent patients to be accompanied by a sufficient number of competent attendants to control them without the use of straps, chains, handcuffs, or other forms of mechanical restraint; attendants to be of adult age and good moral character; suitable nourishment to be supplied to patients at intervals not exceeding five hours, but no medicines or stimulants, except on the

order of a physician; patients must be given opportunity to attend to the calls of nature, and the rules of decency must be observed; women patients must be accompanied by women attendants.)

4, Restricting the further admission of private patients to State hospitals, except in strict accordance with the statute. (No private patient to be permitted to occupy more than one room or to command the exclusive services of a private attendant; distinctions between public and private patients, in the matter of scale of accommodations and care, to be abolished; future admissions of private patients to be limited to those who are pecuniarily unable to meet the minimum rate (\$10 per week) for which treatment could be obtained in a private hospital or institution, consent for such admission to be first obtained from the Commission.)

5, Regulations regarding the correspondence of the insane in custody. (Patients who desire to do so to be permitted to write to some friend or relative at least once in two weeks, and if unable themselves to write, and desiring it, the superintendent to direct some one to write for them; letters addressed to the Governor, Attorney-General, Judges of Courts of Record, District Attorneys or the Commissioners in Lunacy, to be forwarded unopened; letters detained on account of incoherency, obscenity or for other reason, to be forwarded to the office of the Commission.)

6, The parole and escape of inmates of institutions. (No patient in the custody of an institution, who is regarded by the superintendent as homicidal, suicidal, destructive or dangerous to himself or others, to be allowed to go upon parole; no patient to be paroled for a longer period than thirty days; the date of parole, place or places where patient may go, and, if paroled to the care of a person, the name and residence of such person, and the date of termination of such parole to be entered in the patient's history in the case-book. In case of escape of a patient, prompt and vigorous measures for his capture and return must be taken; relatives or other responsible persons to be notified in writing, and, where possible, by telegraph, and the date of escape and all proceedings relating thereto, must be entered in the case-book. Escaped or paroled patients, if not returned at the end of thirty days, to be discharged from the records of the institution, and notice thereof forwarded to the office of the Commission, but efforts to secure the return of escaped patients must not cease after the expiration of thirty days; patients thus discharged must not be re-admitted, except on new certificates of lunacy, the cost of which, and of the return of the patient, in the

case of escape, to be borne by the institution, except in the case of private institutions, by special agreement.

Thus it will be seen that the law provides, at least theoretically, for a central board to exercise general supervision over the application and operation of the lunacy statutes, and qualified to regulate all other matters pertaining to the welfare of the insane, whether of a medical, legal or business nature.

The approval by the Governor, April 15th, 1890, of the so-called "State Care Act," (Chapter 126, Laws of 1890,) which declares the insane to be the wards of the State, and provides for the removal of the dependent insane from county poor-houses to State hospitals, was a most praiseworthy act, the beneficial results of which, both to the insane and the Commonwealth, can scarcely be over-estimated. The enactment of this statute marks an important era in the progress of the people of this great Commonwealth, and places the Empire State in an exemplary attitude of broad and enlightened philanthropy towards the most helpless and unfortunate class of her citizens; while at the same time, it terminates to the satisfaction of the friends of the insane a contest, of several years' duration, between medical science, philanthropy and practical economy on one side, and false economy, parsimony, cupidity and self-interest on the other.

Renewed agitation of the question of State care for the insane was begun several years ago by the State Charities Aid Association, a voluntary organization which, in its visitation of county poor-houses, by local committees, under authority of law, became thoroughly convinced of the unfitness of these places as receptacles for the insane. The reform movement thus initiated, was persistently and uncompromisingly pursued by the Association, under the able leadership of that well-known philanthropist and practical friend of the insane, Miss Louisa Lee Schuyler of New York City, Chairman of the Committee on Legislation for the insane, to whose unremitting efforts the successful outcome of the movement is largely due. After a careful study of lunacy legislation in this and other countries, and repeated conference with those best qualified by study and experience to advise in such matters, with a view to devising means of remedying the evils and abuses found to exist in county institutions, that Committee, being firmly convinced that the existing abuses were irremediable under the county care system, prepared a bill for the removal of all the insane from

these institutions to State hospitals. This bill was presented to the legislature in 1888, but was rejected by that body, public opinion being not yet sufficiently strong in its favor. Subsequently, in that year, the Committee on Insane of the State Board of Charities, of which Committee, Hon. Oscar Craig, (now President of the Board,) was Chairman, made a careful inspection of all the so-called county asylums in the State. Mr. Craig made a detailed and able report of his observations, confirming the reports of the visiting committees of the State Charities' Aid Association, and strongly condemning the county care system. The bill, slightly modified, was re-introduced into the legislature in 1889, having that year the endorsement of the Association of Superintendents of American Institutions for the Insane, the New York State Medical Society, the State Homœopathic Medical Society, the New York Academy of Medicine, the New York Neurological Society, the New York and other County medical societies and the almost unanimous press of the State, irrespective of party, together with the support of most of the Superintendents of the State Hospitals. It failed again, however, but by a greatly diminished vote against it, public sentiment in its favor having been largely increased by the dissemination throughout the State of judicious literature upon the subject. Meanwhile the legislature of 1889 had passed the so-called "Mase bill" \* creating a State Commission in Lunacy, which was regarded as an important measure in the interest of the insane.

This Commission made, in the summer and autumn of last year, a thorough examination of the so-called county asylums. Its official report, which appeared in January, 1890, revealed a condition of things in these institutions even worse than the Committee of the State Board of Charities and the State Charities' Aid Association had previously reported. As a result of its observations, the Commission unanimously recommended the removal of the insane from the poor-houses to the care of the State.

The following extracts from the first report of the Commission to the legislature (1890) may serve to convey a faint idea of the deplorable state of affairs which was found to exist in many of these wretched receptacles for the insane, inaptly called "County Asylums."

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\* Substantially prepared by Dr. Stephen Smith of New York, late Commissioner in Lunacy, and introduced by Hon. Willard H. Mase, Member from Dutchess County.



"Within a small room, in an old and dilapidated wooden building, suitable only for an outbuilding, (Madison County) on a bleak wintry day, was found a demented old woman, apparently about seventy years of age. She was in a state of turbulent dementia, scantily clad, barefooted, exceedingly filthy and unable to appreciate her condition or surroundings. She went about the narrow confines of her cell-like room, beating a spoon against the wall and uttering unintelligible cries. The furniture in the room consisted of a dilapidated bedstead, on which was a tick half-filled with wet and filthy straw, the quantity being insufficient to make a comfortable bed, even if the material had been wholesome and clean. Upon this tick was a soiled and wet cotton comfortable or quilt. In a corner of the room was a crude wooden chair, evidently intended for a commode. It was explained to us by the keeper that it had been provided for that purpose, but that the woman had lately failed to make use of it. The floor was wet and otherwise soiled with excrement, the odor from which was exceedingly offensive. In fact, it smelled more like a privy vault than a place for the confinement of a human being. The doorway connecting this room with the corridor or hallway was closed by a stationary wire screen. While no explanation regarding the door was offered, the arrangement was evidently for the purpose of permitting warm air to pass into the room from the corridor, in the centre of which was an old coal stove. One of the doors of the stove was open and, so far as observed, there was nothing to prevent, upon a slight jar, the rolling out upon the floor of hot coals, which might cause the destruction of the building. While the commissioners were standing in front of the cell, a pauper girl, apparently about 16 years of age entered the room through a side door which was fastened with a hook on the outside. She carried a basin of food, which she placed on the bed and passed out. The old woman proceeded to munch some of the food out of the basin, and placed it on the floor. Upon being interrogated this young girl explained that she and another inmate of the poor-house, a colored girl, were the only persons who attended this old woman; that they did the best they could for her; that they looked after her bed; that they brought her bed-clothing at night; carried her food, etc. She said that the woman was left alone, there being no other occupants of the building except five or six filthy men patients who occupied the other rooms, and these without attendants either day or night except a pauper who took them to a distant building to their meals. The keeper upon being questioned did not deny that the woman was left alone in the same building with the men, and in extenuation of such a horrible state of affairs said: "You ought to have known the condition of the insane here a year ago." He did not pretend even that the woman had any other care than such as has been described; he said she was placed there because she was troublesome and filthy and he did not know what else to do with her."

"In the same building the key of the doors of the other rooms was only found after some difficulty and delay. The beds in these rooms were examined and presented a most shocking appearance. The ticks were only partly filled with straw and the bedding was saturated and discolored by human filth. The odor from the beds was extremely offensive, penetrating the whole building. The keeper explained that the occupants of these rooms were all filthy patients; that

there were not sufficient facilities to properly care for them, and that, therefore, they were placed in this old structure; were taken by a pauper to their meals, and at night were left together in the building with the woman, unattended."

"At this same institution in the 'new building,' upon opening the door of a patient's room, a woman was found standing in a corner with a cotton quilt over her head. At the request of the commissioners she was brought out and the woman attendant in charge was interrogated as to her history and condition. She was bare footed and evidently had nothing on her person except a blue cotton skirt and a man's coat. The attendant when asked if the woman had on any other clothing, replied that she had not. She said that the patient was extremely filthy and disturbed; that she was kept in the room in order to avoid trouble; that occasionally she was brought out to the sitting-room adjoining and strapped to a wooden post which supported the ceiling. The floor of the room which this patient occupied was wet and foul with urine. The only furniture in the room was an empty bedstead, although it is fair to presume that at night bedding was provided. When it is remembered that the day in question was so cold that snow had fallen and that there was no way for warm air to enter the room except through the door, which was kept closed, it may be justly inferred that this woman suffered from the cold, and her appearance indicated that she was cold, although she made no complaint of it."

"In another institution (Chenango County) a woman was discovered sitting in a strong wooden chair, secured to the floor. A board hinged to one arm of the chair and fastened to the other by means of a padlock rested across her lap so that she could not possibly rise until it was removed; a box-like arrangement underneath contained a chamber. An explanation being asked of the keeper, who accompanied the Commissioners, he said that the patient was an exceedingly filthy one; that, unless thus confined, she would defile the whole place in the course of a few hours, and that the chair had been constructed so that the excrement might be deposited in the chamber underneath. It had not occurred to the keeper that prolonged sitting in such a constrained posture on such a seat would soon become very painful and possibly result in permanent injury. At the request of the Commissioners the chair was unlocked and the woman taken out, and they examined the contrivance, after which, the keeper, a man, unhesitatingly raised the woman's clothing and replaced her on the chair. It should be stated that this was done openly in the presence of the Commissioners, without any attempt at concealment, the keeper apparently not realizing its impropriety. When questioned and admonished, he explained that he had been in the habit of looking after the wants of the woman patients as much as those of the men; that his wife had other duties to perform a good deal of the time; that it was absolutely necessary that these women should receive attention, and that he had been among such people so long that he had come to make little distinction between the sexes. It is worthy of remark that this keeper appeared to be a kindly intentioned man, and it was clearly evident that he had performed his duty to the best of his ability and understanding. It need hardly be said that the performance by a man of such services for insane women as are usually and can only properly be performed by women is entirely un-

justifiable; or that he should never be upon the women's wards except in the presence of his wife or a female attendant; but when it is understood that at this place, in which there were in round numbers fifty patients, the entire work of the institution, except the little performed by the patients, was done by the keeper, his wife and a "hired girl," it may be thought that this state of facts possibly furnished some slight excuse for so reprehensible a practice."

"In another institution (Orange County) in a room adjoining the men's corridor, was found a man about thirty years of age, fastened in a chair at the foot of his bed. He was chewing tobacco and was expectorating the juice upon the once white coverlet of his bed. To the most casual observer it would have been evident that the man, aside from his clearly marked insanity, was much debilitated. When asked why he was fastened, he said it was to prevent his running away; that when he went out to work he was chained. The attendant was asked if that was true, and he said it was. He was told to bring the anklets and chains, and to place them upon the patient as they were placed when he was taken out to work. This he did without hesitation. In justice to the keeper and the management, it should be stated that the patient, in reply to a question, said that the iron anklets did not hurt him; that they simply prevented his running away; that he wanted to leave the place and go home, and certainly would have done so had he not been restrained. It did not clearly appear why it was necessary for this sick and feeble man to be taken out in chains and worked."

"On the women's ward of another institution (Clinton County) the scene presented was that of a veritable bedlam. In this ward were found, indiscriminately huddled together, paupers' children, vagrants and insane, all in a state of extreme disorder. One motherly-looking woman was discovered going about the place barefooted, with apparently nothing on but a skirt and a cotton underwaist, the latter of which was so much disordered as to permit the exposure of her person. The keeper explained that at intervals this woman was "sane" and was then permitted to leave the institution; that at such times she was a modest, respectable, hard-working woman. It certainly appeared to be a monstrous wrong that a woman, who at times is rational, should be compelled to stay in a place where there is little or no distinction made between the sane and the insane pauper."

"In one instance, (Clinton County) when the question of bathing was under discussion, and when it was found that four and five patients were bathed in the same water, the explanation was made with some care that 'the patients with skin diseases are bathed last.' In another it was stated that two filthy patients were put in the same bed; undoubtedly, this was for the purpose of saving bed clothing, trouble and annoyance. These two instances of loathsome practices might also be cited in illustration of the crude ideas of classification that obtain in some of these county institutions."

"In one of the largest county institutions in the State, (Onondaga) one of the only two in which a resident physician is employed, a most deplorable condition of affairs was discovered. This physician was found acting in the place of an attendant; in fact, was attending the male patients, or a portion of them, at dinner. He was standing over the table giving orders to the patients, his hat on his head and a cigar in his mouth; his tones were rough and brusque

in the extreme. His manners and action were so peculiar that the Commission made some inquiries in regard to his methods. The keeper informed us that he had repeatedly called the attention of the superintendent of the poor to the necessity of having this physician removed; that he was grossly incompetent, and that he, himself, would not take a dose of medicine prescribed by him under any circumstances whatever; and yet it appeared that this physician had been in charge of an institution containing nearly four hundred inmates for a period of sixteen months, and that he was appointed to his present position the day immediately following his graduation. It needed but a slight examination to disclose the fact that the physician was clearly incompetent for the performance of his duties; that he possessed no practical knowledge of mental diseases, and that this, together with his conduct and bearing, clearly indicated his unfitness for the medical charge of such an institution. The institution, for the most part, was in a state of extreme disorder and confusion, which, with the conduct and appearance of the patients, presented a most distressing picture, closely resembling that of an ideal mad-house as portrayed in the pages of fiction; patients going about singing and shouting, with dishevelled hair, disordered clothing—in fact, typical raving maniacs, seemingly beyond the control of the attendants in charge. This state of things was only what might naturally be expected from the total lack of proper supervision. In one of the women's wards, in the presence of the Commissioners, a woman fell in an epileptic fit, went through all the horrors of convulsions in the presence of the other patients, and, during their stay on the ward, was allowed to lie there with her limbs exposed, and other patients walking about and stepping over her without the slightest concern. It is hardly necessary to state that the Commissioners took steps to secure the removal of this incompetent physician. It was weeks, however, before the removal was made. After the physician learned that an effort was being made to displace him, he wrote a letter to the Commission, in which he asked to be retained, and among other things described his qualifications as a medical officer for the care and treatment of the insane. This letter is so extraordinary, and gives such a clear insight into the character, training and qualifications of the writer, that the Commission deems it advisable to disclose a portion of its contents to the public, especially as the letter concludes as follows: 'This letter I wish you to regard in no way as private.' The letter also indicates the duties which he, a resident physician in a poor-house having two departments, was expected to perform: 'Nearly all the sickness of the institution is upon the poor-house side. For more than eight months I dressed more than ten ulcers per day on the average, and even as many as fifteen per day. The poor-house contains generally about 180 paupers, and all of these expect and should have treatment. There are always as many as fifty of these pauper invalids that I have to call upon, question, treat if necessary, each day. During the last summer, until October, I was obliged to act as an attendant in the men's ward for as many as twenty-four hours per week on the average. The average is under rather than over. \* \* \* Patients are very rarely inclined to hurt any one. When such a thing happens and the patient is a woman, she is simply shut in her room, and in about three cases, that I recollect, not allowed to go to the next meal. If she is very violent and the fit is one of ugliness, we

either put her in the down-stairs room or confine her in the crib for five or six hours. If she is persistent, violent and maniacal, we strap her to a chair, put on the muffs or camisole. If the patient is a man, who becomes violent in my presence, I choose to deal with him alone. If an attendant is with me I do not wish his help with such cases as I have had experience with in this institution. I can walk up to any of our men, however violent they may be, and throw them on their backs, without striking or hurting them. After this treatment, three times out of four they are humbled. If they are not, I let them regain their feet and throw them again, and if this does not answer they are confined to a room."

"It is not claimed, nor is the impression intended to be conveyed, that this physician represents a fair type of the physicians in charge of county institutions, but it is safe to assert that any system which admits of such a gross disregard of common decency, humanity and justice is unworthy of perpetuation. Here was a case of the appointment to a responsible position of a man who clearly did not possess the slightest qualifications for the place, and whose lack of qualifications had frequently been called to the attention of the authorities; yet no effort had been made to remove him, and for months thereafter he had been allowed to retain his position, having in charge hundreds of poor, unfortunate and helpless inmates, both sane and insane."

"In the insane department of one almshouse (Oneida county) containing nearly 400 inmates, we found one attendant in charge of seventy-nine patients. Is it any wonder that this overworked attendant utterly failed in his efforts to preserve order or to keep his patients or the ward in proper condition. Patients, some of them epileptics, were found lying about on the floors or in other objectionable postures; many of them were in extreme disorder, untidy and unkempt, and one an idiot youth was seen walking about with his person plainly exposed; and yet the attendant was a well disposed man who evidently earnestly endeavored to discharge duties which properly would require the services of at least four attendants. But in addition to the utter inadequacy of the number of attendants for day purposes found almost everywhere, the evils of the county system are intensified by the fact that no night supervision whatever is provided. The patients at bedtime are locked in their rooms or dormitories; they are left alone and in darkness; the attendants retire to their rooms, often in a distant part of the building and from that time until morning no care or attention whatever is bestowed upon these unfortunates."

"By reason of the lack of attendance, the patients are not regularly taken out for exercise in the open air, though some of the institutions are provided with small airing courts or yards which are used by the patients in the summer season. During the rest of the time they are compelled to remain on the corridors or wards in idleness, even on pleasant days, with little or nothing beyond the benches and barren, uncolored walls to divert or occupy their attention; while in some cases they are left a considerable portion of the time without attendants, the latter being frequently called away in the discharge of other duties or on account of personal matters. In several institutions the attendants take their meals in distant parts of the building or in another building, leaving the patients to themselves; in others (Madison county) the women's ward is in charge of a man attendant during the absence of the



woman attendant, sometimes for more than a whole day, as we were informed by the latter."

"It might safely be said that sane people confined in such places and compelled to remain day after day and week after week would, under similar circumstances, be likely to lose their minds. What wonder is it, then, that such patients grow worse and drift rapidly down to complete mental degradation?"

"With some exceptions, the patients were allowed to eat with their fingers or often to appropriate each others' food; and, generally speaking, the lack of order and decorum made it apparent that no proper supervision was exercised over them. In fact, by reason of the insufficiency of attendants, no proper order could be observed. It is also a matter of just complaint that only two meals a day are served in a number of these institutions, (especially Madison, Chenango and Cortland counties). It was explained to the Commission that during the winter months beginning with the first of November or December and continuing until the first of March or April, only two meals per day are served; the first at about 9 A. M., the last about 4 P. M., leaving an interval of seventeen hours between the evening and morning meals. It also appeared at these same places that the officers, attendants and employés were provided with three full meals a day. No explanation was offered why insane patients should be allowed a less quantity of food than that provided for their healthy overseers."

"Necessarily by reason of lack of night attendance in the insane departments of the almshouses in the exempted counties, these poor patients at bedtime—which usually occurs in the winter season from 6.30 to 7.30 o'clock at the latest—are locked in their rooms or dormitories and left without care or supervision during the night, and subjected to the depressing effect of being obliged to remain in darkness through the long winter evenings. In one instance, (Chenango county) which the Commission observed, the door of each slatted room was fastened by a padlock. It is due to good fortune that conflagrations, resulting in the most serious consequences, have not occurred, considering the almost total lack of provision either to discover the presence of fire or to extinguish it should it occur. (This institution has since been destroyed by fire with a loss of several lives.)"

"It is literally true, however difficult of belief, that it is a common practice at most of these places, to bathe three or more patients in the same water. Indeed, from the unreserved admissions of employés and officers it was ascertained that, in many instances, four or five are bathed before the water is changed. When it is considered that water is almost as much of an essential as air and light, and that its cost, even where a separate plant for its supply has to be maintained, is comparatively small, it seems well-nigh incredible that a practice whereby 2,000 sick and insane people are liable to such indignity, such cruelty, as compelling them to bathe in water which had previously been used by two or three, or four other patients, should be permitted to exist. In view of the fact that insane people frequently suffer from ulcerations on the surface of the body and other disorders of the skin, it seems marvelous that such a repulsive practice should have been permitted to exist for years without arousing the deepest public condemnation.

It is proper to state that the facts in regard to the bathing were brought out, not upon the witness stand or under any pressure of compulsion, but very freely stated without reserve. In a few instances only was an explanation attempted, to the effect that the supply of water was insufficient; or that with insufficient help there was great difficulty in heating it and bringing it from a distance. In one of the county asylums (Queens) an assistant freely admitted the bathing of from five to six patients in the same water, and said in relation thereto: "We can not afford to waste our water."

"When the Commission visited many of these county institutions the weather was cold and an effort was made to ascertain whether the patients were supplied with sufficient underclothing. This was not easy to ascertain. In most instances the Commission was informed that the patients were well provided for in this respect. From personal observation, however, in a large number of cases (especially in Madison and Ulster counties) old and feeble patients were found not to be provided with undergarments."

"While it is proper to state that the beds, as regards quality and condition, were generally found to be fairly good, still in many cases they were entirely inadequate. An examination showed that the beds, and especially those of the disordered and filthy patients, were simply too vile for description. In many instances, (especially Madison, Orange and Queens counties) the straw mattresses were literally reeking with filth, and evidently were not dried from one day's end to another. In a few instances only were woolen blankets provided; in nearly all cases cheap cotton quilts, which when they are filthy are so difficult to cleanse, were provided for the patients. In nearly all of these institutions, too, the bedding is not changed as frequently as it should be. The almost uniform reply to the inquiry "How often are the sheets changed?" was "one sheet is changed each week." And aside from the beds and bedding, the practice which prevails in many instances of permitting or compelling two patients to sleep together can not be too strongly condemned. The idea of two ordinary sick people being compelled to lie together is sufficiently repugnant; how much worse for two insane people to be required to occupy the same bed. It should in justice be said, however, that in some of these county almshouses this practice does not exist at all and in others to only a limited extent. In one institution (Orange county) the Commission found that a considerable number of the beds were occupied by two patients each."

"Respecting the use of mechanical restraints in the treatment of the violent or disturbed insane, a matter which, perhaps, has engaged the attention of the public mind more than any other in connection with the management of asylums, it is well established that, if permitted at all, they should be applied only under the direction of a medical officer in each instance. Yet the Commission found in these county almshouses that it was the exception rather than the rule for restraint to be prescribed by a physician, the common practice being to apply restraint at the will of an untrained attendant or employé; in other words, restraint is applied whenever, in the discretion of such employé or attendant, it is supposed to be needed. No record is kept of such application. In one instance, (Ulster county) the physician present was not able to give the name or mode of application of a certain kind of restraint which was exhibited. In fact, he claimed that he did not know of its exist-

ence in the institution, and yet the attendant said that he (the attendant) had frequently used it."

"In a few institutions only were medical stores found in any quantity worth noting, and in only two or three were they in the charge of a competent person. It might be supposed, too, with a non-resident physician coming at most not more than two or three times a week, that there would be a system of medical records; that there would be a book containing prescriptions and directions for the taking of medicines; that the bottles and packages of medicines would be carefully marked; that specific directions would be furnished for the giving of medicines to these irresponsible patients; but in not more than one or two instances was this found to be the case. An examination disclosed the fact that commonly the bottle or package of medicine was handed to an employé with verbal directions as to giving the same. In one case observed by the Commission (Wayne county) the bottle of medicine for a patient sick in bed was discovered to be in the coat pocket of another patient, and it was administered by a third patient, who went to the pocket, took out the bottle and gave the dose as he recollected the instructions—this occurring in the presence of two of the Commissioners."

"Another important feature of modern asylum management, and without which the highest degree of success is impossible of attainment, is that of classification, based on the various forms and conditions of disease that are represented among the inmates. For example, quiet and orderly patients should not be compelled to associate with the violent and disturbed, nor should the filthy usually be kept on the same ward with the neat and tidy, or the dangerous and destructive with those that are harmless. The suicidal, too, should be placed by themselves and kept under careful observation. It is not to be expected that proper classification can be applied with the small number of patients in these county institutions, except at a disproportionately large expenditure for necessary structural arrangements and a proportionately large number of attendants. It will be at once apparent that the county institutions are utterly unable to establish any proper system of classification. In fact, at some of them, the principle of classification does not seem to be understood by those in charge, while in others, the only classification attempted is the separation of the sexes; and even this is not always completely observed, for, in one instance, (Lewis county) the Commissioners found a male patient eating his dinner with the women, and in others it was found that the men and women worked together unattended. The superintendent of one county institution (Clinton county) said that he was constantly fearful of the result of improper contact of the sexes. This fear would appear to be not entirely groundless, as in one institution (Wayne county) within a year or two a case was established of intercourse between an idiot woman and an insane man, which resulted in the birth of a child. This occurrence was admitted to the Commission, although it appears that a previous attempt was made to conceal the fact from the Legislature and the public by means of misleading affidavits."

"The interests of humanity and economy alike demand that every institution for the custody of the insane should be provided with adequate means of protection against fire. The Commission regrets to say that in more than three-fourths of the county institutions no suitable means of fire protection was found,

while in several of them there was absolutely none at all. In two only was a fire-escape observed. In one (Queens county) this was structurally unique, being an inclosed stairway extending at an angle of about forty-five degrees from a contracted opening in the wall of the third to the top of the first story, where it terminated in a chute, which reached to the ground. The chute was too low to admit of an erect posture, but it was explained to us that the patients could slide down it in case of fire. The danger of fire, always great where hundreds of persons are congregated under one roof, is immeasurably greater in asylums, where the inmates, lacking reason and self-control, are locked at night in rooms or associate dormitories, where, as may happen through lack of proper attendance and care, they sometimes get matches; where they are allowed to smoke tobacco, and where, in many cases, disordered minds may entertain morbid and perhaps irresistible inclinations to kindle fires. In most of the county almshouses the lack of proper fire protection is lamentably obvious, and it may be said to be a matter of surprise that losses of life from fire have not been frequent and dreadful. In one place, (Madison county) which seemed to be reasonably well protected, it was found that the key to the fire-hose closets was in the basement, and it was only after some delay that the key was found and the closets opened for our inspection. Of course the prime value of fire protection consists in the promptness with which it can be supplied at the breaking out of fire, and in that sense the utter futility of the arrangement just referred to can be readily seen. The same superintendent of the poor who expressed his fears in regard to the contact of the sexes, also said that he was constantly worried by the danger to be apprehended from fire. He said that the institution under his charge had been on fire not less than a dozen times during the past eight years. It must not be forgotten, too, that many of the insane, so far as their removal from a burning building is concerned, are more difficult of control than a similar number of young children. The poor creatures, being irrational, are unable to appreciate their surroundings, to understand commands or to appreciate danger, and instances are not wanting where fires occurring in such institutions have been attended by fearful and lamentable results."

"It is a matter of surprise to the Commission to find in the insane departments of the county almshouses that little or no provision has been made for the religious worship of the inmates, it being the universal custom in all properly managed hospitals for the insane to provide for religious services and for the spiritual needs of the sick and dying. In only a few instances had any effort in this direction been made. In most of the others no attention had been paid to the subject, to the extent, that is, of making any moneyed provision for the attendance of a clergyman at either regular or irregular intervals. It was explained in some cases that occasionally a clergyman voluntarily came in; in one instance it was said that an effort had been made in this direction, but that it had been given up, while in another the Commission was informed that the Board of Supervisors appropriated annually the sum of thirty dollars for the purpose of providing religious services to the sane paupers, but that no similar provision had been made for the insane. In still another instance the Commission was told that religious services were held regularly for the paupers, and that such of the insane as desired to attend



were privileged to do so. It may be remarked, in passing, that large numbers of the insane are quite capable of appreciating the benefits of religious instruction, and eagerly avail themselves of the privilege of receiving it. In fact, in most hospitals for the insane it is regarded as an important element in treatment. It would certainly seem that these people should not be denied a privilege usually accorded to even the humblest of sane citizens."

"With the present cheapness and abundance of reading matter, it is somewhat surprising that greater effort has not been made to furnish the inmates of these institutions with a regular supply of newspapers, magazines, etc., yet in most instances, no reading matter whatever is supplied, except that which is presented through the kindness of charitable people. Perhaps it should be said that in two county institutions the Commission was informed that all the county papers were taken, and that the patients were permitted to see them. In one institution (Orange county) the Commission observed an intelligent woman sitting in a ward, and when spoken to in regard to her condition she said that she was suffering from epilepsy; that she had formerly been a teacher; that she had been a private patient; that her money had become exhausted, and that she was now dependent on public bounty. When asked if she cared to see a daily paper, she said that she had not seen any paper in months. This case is not an isolated one. Many of these people, although insane, are capable of reflection and are sufficiently rational to maintain an intelligent interest in the news of the day, and there is no valid reason why reading matter should not be provided in abundance."

"In every civilized nation the insane are regarded as the wards of the State, holding to it a relation similar to that of children to their parents; hence the State is justified in special measures regarding them which would not be warrantable in regard to any other class of its citizens. They suffer from a disease which, unlike any other, is peculiar in this, that, as a rule, deprivation of liberty is an incident to its successful treatment. No person can be deprived of his liberty except by the operation of general laws; and there is no insane person to-day who can be deprived of his liberty except by a judicial decree. To be sure, the insane are deprived of liberty, not only as a primary step to recovery, but also for the protection of the community or of themselves. Nevertheless, their position in this respect is extraordinary, and every proceeding in regard to them should be taken with this fact in view. If a convict complains of cruel treatment, or of lack of food, or of lack of proper shelter, or of lack of medical attendance, it might be said that this resulted from his own evil courses and his disobedience of the laws of the State. So, too, if a sane pauper complains of lack of these things, it might be said that it was his own improvidence and idleness that had compelled him to accept public bounty. Then, again, he is free to refuse that bounty and to seek his subsistence elsewhere if he chooses. Not so, however, with the insane pauper; through no fault of his own he is deprived of his liberty, and must submit to the treatment accorded him, whatever its nature. Outside of all this, the great fact remains that, in considering the subject of the care and treatment of the insane, whether by State or County, the highest place should be given to its humane aspect. Many of the insane are rational and appreciative with respect to matters outside of their



delusions; they are not insensible to neglect and ill-treatment. It requires no stretch of the imagination to fancy what the condition of such patients must be, with no means of suitable occupation or amusement, with nothing to divert the mind or the eye, with no reading matter, with no light to read during the long evenings if reading matter were provided, to say nothing of enforced association with filthy and disturbed and violent patients. All these things they must think of at times and keenly feel."

"The benevolence of this great State, in its care for the insane, has had a progressive development which cannot be allowed to stop or halt, but must be maintained. The State's relations to its insane, while greatly improved within the past thirty years, are not yet settled on an entirely satisfactory basis; they need further revision and legislative action; they ought to command a foremost place in public regard, since the claims of suffering humanity take precedence over merely material or pecuniary policies."

"The conclusion of the Commission regarding the system of County care of the insane is, that however feasible in theory, in practical operation it has been found to have failed and fallen far short of the hope entertained for it when the act of 1871, sanctioning its trial, was passed. As a system it has developed inherent difficulties and defects which seem to be ineradicable, and which make its successful operation in all essential respects impossible. Such being the case, it ought to be abolished and the policy of State care for all of the insane, both chronic and acute, should be reestablished at the earliest practicable date. It cannot be said that the system of county care has not had a fair trial. It has been in vogue since 1871, under exceptionally advantageous circumstances. During all that time it has had the advantages of State supervision, and yet it has failed to meet every reasonable or just expectation. If the system has been a failure for nearly twenty years, is it not reasonable to conclude that it is likely to be a failure for all time to come? It is not claimed that the system of State care, as now conducted, is perfect, but it is steadily progressive; it is humanely and intelligently administered; it represents all that is best in the present state of medical knowledge; and whatever other criticism may be passed upon it, it certainly cannot be said that the inmates of the State asylums are not comfortably housed, sufficiently clad, properly fed, provided with sufficient attendance and care, and given medical supervision and treatment of an exceptionally high order."

The Commission recommends:

1. That all the insane in the county poor-houses in all of the counties of the State, except New York and Kings, be transferred at the earliest practicable date, to State asylums.
2. That to each State asylum should be assigned a certain number of counties having reference to population, proximity to and capacity of the asylum, etc., as a district from which all the insane resident therein shall hereafter be sent to said asylum.
3. That the State erect comparatively inexpensive buildings on the grounds of the State asylums, at a total cost for construction, equipment and furniture, not exceeding \$550 per patient.
4. That the State assume the entire expense, not only of clothing and maintaining the insane, but also of removing them to and returning them from the asylums.

The bill providing for State care of the insane, slightly modified to conform to the recommendations of the Lunacy Commission, was a third time introduced into the legislature, at the instance of the State Charities' Aid Association.

It encountered an organized and vigorous opposition, emanating from certain county officials, mostly Superintendents of the Poor, but was supported by a constantly growing public sentiment in its favor. It had also the renewed indorsement and support of the medical societies referred to, of the press, the Superintendents of the State Hospitals, and of the President and several other members of the State Board of Charities, to which was now added the active influence in its behalf of the new Commission in Lunacy. This time the bill was successful and, as before stated, became a law by the hand of the Governor in April last.

The following is a brief abstract of the law:

Sections 1 and 2, provide that the State shall be divided into as many districts as there are State insane hospitals, by a Board composed of the State Commissioners in Lunacy, the President of the State Board of Charities, and the Comptroller; that certain State and County officials shall be notified of the classification of counties into districts by the Board; and that the Board shall have power to re-district the State when necessary.

Section 3, authorizes and requires the State Commission in Lunacy to cause the removal from counties of such number of insane as can be accommodated, when vacancies in State hospitals exist.

Section 4, states the manner in which the accommodations for the insane shall be provided. Inexpensive, detached buildings of moderate size shall be erected on the grounds of the existing State hospitals, of sufficient number and capacity to accommodate all the so-called pauper insane now in the poor-houses and almshouses of the State, with the exception of those in the counties of New York, Kings and Monroe. The buildings shall each accommodate not less than ten nor more than 150 patients, and the cost of the buildings with equipment, including heating, lighting, ventilation, fixtures and furniture, shall not exceed \$550 per capita. The plans to be approved by the Board created by the act.

Section 5, provides that the State hospital of each district shall receive all the dependent and indigent insane of the district, whether acute or chronic cases.

Section 6, provides for the manner of sending the insane to the

hospitals. Female patients to be accompanied by female attendants, etc.

Section 7, states that after sufficient accommodations shall have been provided in State institutions for all the dependent insane of all the counties of the State, no charge shall be made to any county, after the first of October next ensuing, for the care, treatment, maintenance or clothing of their insane, acute or chronic, nor for the traveling expenses incurred in taking dependent insane patients to State hospitals, but that the cost of the same shall be paid by the State. Until such accommodations are provided, the patients shall continue to be a charge to the counties.

Sections 8 and 9, provide for transferring patients from one hospital district to another in case of overcrowding; also for allowing patients, at the request of their friends, to be sent to a State hospital not of the district, (or from any district to the State Homœopathic Hospital.)

Section 10, requires the State Commission in Lunacy, when necessary and expedient, to prevent overcrowding, to recommend in its annual report the erection of additional buildings, on the grounds of existing State hospitals, or the establishment of another State hospital or hospitals in such part of the State as in its judgment will best meet the needs of the dependent insane.

Section 11, asserts, as the intent and meaning of the act, that when accommodations for the insane poor of all the counties shall have been provided by the State, no dependent insane person shall be permitted to remain under county care, but that all shall be cared for in State hospitals, there to be regarded and known as wards of the State, and to be wholly supported by the State.

Section 12, requires the State Commission in Lunacy to furnish the Comptroller, and the Comptroller to report to the Legislature, estimates of probable expenses for accommodations for each year; and requires the Managers of State hospitals likewise to furnish the Comptroller with estimates for maintenance for each year.

Section 13, exempts New York, Kings and Monroe counties, also the State asylum for insane criminals, from the provisions of the act, but permits these counties to send their insane to State hospitals as heretofore.

Section 14, enables New York, Kings and Monroe counties to come under the provisions of the act, whenever they may desire to

do so, the method of procedure being by application in writing to the Governor, by the local authorities in either of said counties, to transfer the buildings, lands and equipment used by them as insane asylums to the State for the same purpose, upon such terms and conditions as may be specified in such application. The Governor shall thereupon transmit the application to the districting board, whereupon said board shall proceed to determine, by examination, as to the condition and value of the property, as to its fitness for a State hospital for the insane and whether the terms and conditions proposed are just and proper, reporting its findings and conclusions to the Governor, who, in turn, must transmit the report to the legislature with such recommendations as he may deem proper.

Section 15, defines the word insane, as used in the act, to include all persons of unsound mind, except idiots.

Section 16, revokes all exemptions from the provisions of this act heretofore granted to counties, either by special enactment or by the State Board of Charities, (except in the counties of New York, Kings and Monroe), and prohibits the granting of further exemptions.

Section 17, prohibits the return of insane patients from State hospitals to the custody of superintendents of the poor or to town or city authorities (except in the counties of New York, Kings and Monroe).

Section 18, provides that the act shall not restrain or abridge the power and authority of the Supreme Court of the State over the persons and property of the insane.

Sections 19, 20 and 21, provide for the reasonable expenses of the Board; also for the repeal of acts inconsistent with this act, and for giving immediate effect to the act.

Among the less obvious, but not less valuable, effects of the new law may be noticed:

*First.* The principle of State care for the insane (already adopted by the State in 1836 and given wider scope in 1865) is not only reaffirmed by the act of 1890, but, going beyond all previous legislation, carries the principle to its legitimate conclusion by committing the State to the entire support of its dependent insane wards. That the insane are the wards of the State has long been established, but not until now has the State undertaken to fulfil the obligations of guardianship by providing solely and entirely for the maintenance of these wards. This is perhaps the most important feature of the new law.

*Second.* By districting the State, and by obliging each State hospital to receive all the insane of its district, the recent legislation destroys at once the unscientific and pernicious system of making a legal distinction between acute and chronic cases of insanity.

*Third.* By accommodating the insane in small, detached cottages the new law provides for a classification of the insane upon a medical basis, almost unlimited in its possible subdivision and extension; and also gives to the medical officers of large asylums the long desired opportunity of *individualizing* the treatment of insanity.

*Fourth.* The interests of the tax payers have been guarded in the new law, as never before, by limiting the cost of building, equipment and furnishing to a fixed *per capita* sum of moderate and proper dimensions, namely, \$550.

*Finally.* The act of 1890 not only makes it obligatory upon all counties of the State but three—and with these three it is permissive—to place all their insane under the care of the State, but makes it for the financial interest of each county to do so; thereby creating a system of State care for the insane which contains within itself the elements of self-perpetuation and extension.

Thus the State of New York, in its wisdom, has finally and unequivocally determined that it will assume the care and control of all of its insane who are unable to obtain private care. This determination has been slow in coming, but it is believed, by those best qualified to judge, that it will stand. The people of this commonwealth are strong in the faith that "nations are never impoverished by the munificence of their charities;" and that failure on the part of a State to make suitable provision for all of its dependent insane is "poor economy and worse philanthropy."



## TWO CASES OF TRAUMATIC INJURY OF THE BRAIN.\*

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Kankakee, Ill.

*I. Fatal case of penetration of left motor cortex of cerebrum by a nail, with consequent paralysis. Extensive meningitis of left side; apparently from blow in frontal region and not connected with nail wound. Trephining at point of nail wound.*

C. C., male, single, aged 20, farmer, register No. 3,892. Admitted to State Insane Hospital at Kankakee, December 11th, 1889. Duration of insanity three weeks. No information as to heredity neuroses. Habits of occasional alcoholic excesses probable.

This patient was brought to the hospital by his brothers who stated that they believed him to be suffering from some injury of the head, as he had four weeks previously on one occasion, while playing with children, started to run rapidly through a door with a low lintel, and had struck his head violently against it in the frontal region. They thought his skull might have been injured and wished him examined in this respect. The patient was therefore carefully examined but no injury of the head discovered in the region indicated, or elsewhere. He was at this time in good physical condition, tongue clean, appetite capricious, bowels constipated, sleep much disturbed, sight and hearing normal, reaction to light normal, cutaneous sensibility normal. Tendon reflexes less marked than average but otherwise normal, lungs and heart normal, pulse regular, 96.

Nothing of note was learned with reference to the previous history of the patient until appearance of mental disorder, except that, as above stated, four weeks previous to coming to the hospital he had struck his head violently against the door lintel. At that time he immediately turned pale, but when asked if he was hurt said, "Not a bit." He shortly after left home and went

\*Read at the forty-fourth annual meeting of the Association of Medical Superintendents of American Institutions for the Insane, held at Niagara Falls, June 10-13, 1890.

to work on his land some distance away, where he lived alone, and nothing further is known of him until ten days later, when his brother visited him and found him very depressed and troubled unnecessarily in mind, among other things with the idea that he "had sold his corn too cheap." He would cry and moan, and has acted in the same way ever since, being very low spirited and delusional. At one time he said to his brother, "You don't know what I have done to myself."

Upon admission very quiet for a few days. Seemed to have lucid intervals and talked rationally at times. At other times restless and attempting to injure himself by bumping his head on the floor and walls.

December 15th. Transferred to the "Infirmiry" or hospital ward on account of refusing food. Conduct quiet and inoffensive. Mental depression great.

December 23d. Has taken food regularly and willingly at Infirmiry, and is physically improved. To-day was observed to stand on a chair, place his mouth at the gas jet and turn on the gas. He was removed to another room, but there obtained access to a gas stove used for cooking for the sick, removed the rubber tube and placed it in his mouth and inhaled enough gas to render him partially insensible, so that he fell over and was found by attendant partially suffocated, but quickly revived.

December 28th. Removed from hospital ward to another building on account of suicidal tendencies. Hair was here cut quite short, and on December 31st, while patient was being bathed, attendants noticed that he flinched when the top of his head was touched, and on examination found a small sore in the scalp at the vertex. Attention of assistant physician was called to the matter at evening round, and he having a poor light said he would examine it next day. But the next day, (New Year's) his round was made by another member of the staff for him, so that examination was not made until January 2d. On examination of the head January 2d, in a good light, a small circular opening through the scalp about  $\frac{1}{4}$  inch in diameter was discovered. Apparently a scab had recently separated which covered the opening.

A probe was introduced and gave a metallic sound and feeling. Dr. Dewey was called to examine the case and on getting a good view of the bottom of the opening a metallic surface could be seen which had the appearance of a galvanized tack or nail. An

ordinary forceps was applied to this, but the body was too firmly fixed and did not yield.

The patient was then sent to the hospital ward again, the head shaved and washed with carbolic solution, the opening further enlarged and a powerful tooth forceps adapted for seizing the foreign body was fastened upon it and with a considerable amount of force—as much as would ordinarily be required for the extraction of a tooth,—there was withdrawn from the skull a body which proved to be a wire nail of galvanized iron, the dimensions of which were  $2\frac{9}{16}$  inches in length,  $\frac{1}{8}$  in diameter and the head  $\frac{1}{4}$  inch in diameter.

The point at which the nail entered the cranium was almost in the median line, perhaps  $\frac{1}{16}$  inch to the left and  $1\frac{1}{4}$  inches anteriorly to the lambdoidal suture, and three inches posteriorly to coronal suture. The angle of inclination of the nail from the perpendicular was 40 or 45 degrees downward and forward. A few drops of pus followed the extraction of the nail, and the wound was then irrigated with a solution of bichloride, 1 to 1,500.

Up to the time of the extraction of the nail, the patient had spoken, (or rather articulated,) intelligibly; although he either could not or would not answer questions or talk coherently.

He articulated plainly before the nail was removed and in reply to questions, (though his answers were not intelligent.) He moaned and resisted slightly the extraction of the nail, but from the time the nail was removed, was not heard to speak or articulate distinctly again. The wound was then slightly enlarged by crucial incision to secure better drainage.

The fluid in the wound was observed at this time to rise and fall with the inspiration and expiration of the patient. The wound was dressed with iodoform and carbolic acid gauze.

Some helplessness was noticeable of the right arm immediately after extraction of nail. The patient was put to bed and given a special attendant. He was also suffering from the prevailing "grippe" with much cough and discharge from the nasal mucous membrane. He was in a state of considerable agitation, moaning inarticulately and at times attempting to speak, but unable to utter anything intelligible. The stuporous melancholy renders it difficult to determine to what extent speech was affected, but aphasic symptoms were plainly present. Temperature in axilla at 4 P. M. on the day of the extraction of the nail, (which was removed about 11 A. M.) 105.8 degrees, pulse, 75. At 7 P. M. ad-

ministered 10 grains quinine and 7 grains antipyrine. Wound irrigated with one gallon of warm water. While dressing the wound the respiration suddenly went up to 72 a minute, and the pulse 84. Five minutes later, after the patient was put back to bed pulse was 76, respiration, 12. Patient seemed at this time to understand what was said to him, but to be unable to speak. At 8 p. m., slightly delirious. Slept till 12 midnight. Temperature at that time was 102.4. Pulse feeble and 93. Very restless and requiring attendant to watch constantly.

It was considered desirable to trephine at the point of the nail wound in order that if there were any accumulation of pus, and pressure from this, it might be relieved, or if there were any splintering of the inner table of bone and depression or irritation from this cause it might be removed, but as consent of friends was important, a dispatch was sent stating briefly and asking permission to operate.

January 3d, 4 A. M. Temperature 101.2. Pulse 71 and soft. Patient slept quite soundly latter part of night. Took liquid nourishment. 9 A. M. T. 104.4, R. 22. Urine drawn with catheter. Right arm and leg somewhat extended and a little rigid. Patient lies with right arm behind him in an unnatural position, but as though not experiencing any discomfort from it, showing some impairment of muscular sense. Some ptosis of right eyelid. Pupils react slightly and equally. Sense of touch and of pain on right side decidedly impaired. Unable to project tongue beyond lips. In attempting this, tongue tends toward the right side. When asked to move right arm does it slowly. Moves left preferably. Appears to understand but cannot articulate intelligibly. At 12 Noon, irrigated wound and a few drops of pus escaped. P. 78, T. in axilla 104, R. 32. No use of right arm or leg. Ptosis more marked. Facial muscles, right side paralyzed. Very restless. Gave 10 grains quinine and 7 of antipyrine and one-half pint of milk. 4 P. M. T. 104.2, R. 26, P. 76. Sleeping. Catheterized. Took milk in sufficient quantity. 7 P. M., enema of warm soap suds retained. Repeated and still retained. Urine analysis gives sp. gr. 1.022. Otherwise normal. 8 P. M. T. 103.8, P. 76. R. 30,—irregular. Irrigated wound and probed carefully. When probe was withdrawn a few drops of pus escaped. Repeated quinine and antipyrine. 12 Midnight. T. 102.8, P. 77, R. 23. Restless and delirious.

January 4th, 4 A. M. T. 103.2, P. 75. Would not swallow milk punch. Slept in a restless way three or four hours. 7 A. M.

sleeping. 8 A. M. T. 103.2, P. 64 and irregular. Took liquid nourishment frequently. 9 A. M. Rectal injection of warm water,—retained. 12 A. M. T. 103.8, P. 70. Restless, moans, and is delirious. Has had continuously much cough and nasal catarrh. 2 P. M. More control of right leg noticeable. Right arm still helpless. 3 P. M. Having secured consent of friends, operation of trephining was performed by Dr. Dewey, Dr. Riese assisting. The patient took ether, which was well borne. Antiseptic measures were carefully taken, scalp being shaved and washed with 1 to 1,000 solution of bichloride. Crescent shaped flap made to uncover the cranium. Button of bone one-half inch in diameter was taken out, the circle of the trephine being so located that the nail hole was upon the inner and forward circumference. The location chosen to avoid the longitudinal sinus. When button was taken out the wound of the nail was shown to have made a clean cut upon the inner table. There was no depression or splitting of the bone. The dura mater underneath the button looked entirely normal, except immediately around the nail hole there was some dark discoloration. A few drops of pus oozed out. Probe introduced and by its own gravity passed downward and forward at an angle of 45 degrees, between  $2\frac{1}{2}$  and 3 inches. There was no evidence of any confined pus or pressure from within, when probe was withdrawn. Irrigated wound with bichloride solution, 1 to 4,000. The flap returned to its place without replacing button of bone, the scalp stitched up, leaving a fenestrated drainage tube at the most dependent angle. Wound was dusted with iodoform and dressed with bichloride gauze. Patient bore the operation well. No struggling or vomiting. T. 100.4, P. 75. Put to bed with ice cap to head. 7 P. M. Reaction good. Moaning and restless. Tries to press against the top of head. Very thirsty. T. in rectum 105.4, P. 105, R. 23. (From this time temperature taken in rectum on account of restlessness of patient.) 8 P. M. T. 104, R. 26. Thirsty, restless. Catheterized. 9 P. M. Rectal injection of warm water without result. Gave quinine, 10 grs. and antipyrine, 7 grs. 10 P. M. Very restless. One-fourth gr. morphine hypodermically. 12 Midnight. P. 88, T. 103, R. 26. Sleeping.

January 5th, 3 A. M. T. 103, P. 68, R. 26. Sleeping from 10 last night till 5.30 this morning. At 5.30 pulse 66, T. 103, R. 30. Restless since 3 A. M. Has taken a pint of milk with lime water during the night. 8 A. M. T. 103, P. 110, R. 28. 10 A. M. P. 75,



T. 103.2, R. 32. 3 P. M. P. 76, T. 103.6, R. 32. Had drop of croton oil placed on tongue. Takes milk and eggs sufficiently. About 5 P. M. Dressing removed and wound irrigated. Position of flap and drainage tube right. No tendency to union. No supuration. A few drops of pus escaped while irrigating from within cranium. New dressings applied. 7 P. M. P. 76, T. 102.6, R. 34. Restless all day. Lies on right side. Left side of body in constant restless action. 8 P. M. P. 76, T. 102, R. 40. 8.35 P. M. Loss of motion noticeable in right lower extremity. Some sensation evinced by patient trying to push hand away when pinching right foot, with the left foot. Tickling sole of right foot not felt, but quickly responded to by left foot when tickled in the same way. Patellar tendon reflex slight on right side. Patient in continual agitation of left arm and leg. P. 76 to 80, R. 40. Patient has vision and consciousness to some extent. Reaches out after chair or bedpost, and covers himself with bed clothing. Articulation thick and words unintelligible. Tries to speak in answer to questions. Left pupil responds to light and is moderately dilated. Much sensitiveness about the eye and resistance to manipulation. Right pupil more dilated than left. Involuntary movements of eye ball, which rolls about during manipulation. Divergent and moving up and down, but not convergent. No sensitiveness about right eye or resistance to movements. Some little response to light in right pupil. All facial muscles of right side partially or totally paralyzed. No movement of bowels as yet. Half ounce of sulphate of magnesia given. 11 P. M. T. 103, P. 80, R. 40.

January 6th, 1.30 A. M. Patient has taken a few ounces of milk but deglutition has gradually become more difficult. No movements of arms or legs either side. P. 94, T. 104, R. 28. 2. A. M. Catheterization followed by what attendant described as a "convulsive chill." 4.30 A. M. P. 100, T. 105.5, R. 50. Respiration much embarrassed. 6 A. M. P. 138, T. 106, R. 60. Bowels moved slightly. 7 A. M. P. 104, T. 105, R. 78. 8 A. M. P. 150, R. 65. Pulse full and bounding, inflammatory. Respiration steady, but two or three times interrupted for one or two seconds. Larynx moves with each respiratory effort. Right pupil much contracted. Left much dilated. No reaction to light. Slight twitching of left upper lid after raising; twitches on touching eye ball. A little water placed on tongue produced an effort to swallow, not very successful. 8.30. Breathing stertorous for a few moments.

Depressing inferior maxilla or interfering with the movement of the larynx causes the stoppage of the respiration. Respiration becoming more irregular. 9 A. M. R. 64, P. 150. Respiration somewhat rhythmically irregular. About every five minutes stoppage and acceleration for ten seconds. 10 A. M. P. 135, somewhat irregular in force and speed. Quite full. At times bounding. T. 106 in rectum. R. 67. Pupils same as at 8 A. M. 11 A. M. R. 62, P. 145. 12 Noon. T. 104.4, P. 160, R. 68, stoppages of respiration more frequent but of shorter duration. 1 P. M. P. 140, R. 64. 2.30 P. M. T. 104, P. 140, R. 64, a little frothing at the mouth. 3 P. M. pulse rather small, less bounding, easily compressible and dicrotic,—152; P. 62. 4.30 P. M. Left pupil slightly smaller, right larger. Respiration 62,—has been regular for three hours. 5 P. M. R. 58, pulse 180,—almost impossible to count. Moved upon right side, giving greater ease in breathing. Left eyelid twitches on touching conjunctiva. Moved left arm slightly. 5.45 P. M. R. 60, P. 185. Urine, sp. gr. 1,019—a little pus, otherwise normal. 8 P. M. Applied new dressing and used irrigation under antiseptic precautions. Considerable pus of light color and thin, squeezed out from under the scalp in superficial wound. The wound gapes, no disposition to heal. 9 P. M. Enema of warm water,—retained. 10 P. M. Enema of peptonoids, 2 drachms in 2 ounces of water at 100° temperature. 11 P. M. T. 105, P. 112, R. 52.

January 7th, 1 A. M. Nutrient enema repeated. 5 A. M. T. 107, P. 140, R. 50. 7 A. M. Died.

*Post Mortem*.—One hour after death. Brain only, on account of objections of friends. Removed the skull cap, which was thinner than the average.—6½ ounces of dark, bloody serum escaped. Dura mater changed in appearance around point of trephining, since operation has a mottled look, and is somewhat inflamed and adherent to parietal bone over a half circle of perhaps 1½ inches in diameter on left hemisphere with nail wound for a centre; dura mater also discolored and markedly inflamed over posterior half of frontal lobe, this is the area of highest inflammation. Weight of brain, 53½ ounces. Nail wound on anterior surface of cranium almost in middle line, perhaps ⅛ inch to the left. Meningeal vessels highly injected over entire vertex. Appearance of dura over right vertex otherwise normal.

Brain after removal presents moderate congestion over base, more marked on base of left frontal lobe.

The superior surface of left hemisphere from post-central convolution anteriorly was covered with an exudation of thick, yellow pus of an exceedingly foul and offensive odor. The most marked points showing inflammation of highest grade are the posterior one-half or one-third of the first, second and third frontal convolutions, and especially on the third, and extending across the fissure of Sylvius to the anterior extremities of the first and second temporal convolutions where considerable softening was noticeable. The right hemisphere showed only congestion.

The left occipital lobe was congested, the right uninvolved.

The course of the nail through the brain substance was as follows: Entering the post-central convolution almost upon the border of the median fissure, it passed downward, forward and somewhat outward nearly parallel with the median fissure. Its presence had resulted in the destruction of gray and white tissue, forming an irregular cavity over two inches in length by about one-half in diameter, extending obliquely downward and forward, leaving one-half inch of sound tissue at the lower end of the nail cavity between the median fissure and the cavity. There was a tendency for the cavity to extend outward laterally toward the surface of the hemisphere.

Upon opening the cavity formed by the nail a quantity of black necrosed brain tissue in a liquid condition escaped.

The white matter forming the anterior portion of the quadrate lobe was involved and the region anteriorly of white substance passing to the gyrus fornicatus in its posterior portion. Some slight softening was present at the anterior end of the superior vermiform process of the cerebellum. Otherwise the cerebellum appeared normal unless possibly a little softened.

#### REMARKS.

The question presents itself in this case whether the injury produced by the nail was or was not the cause of the extensive meningeal and cortical inflammation existing over the left frontal and parietal lobes. The point of most active inflammation was not directly connected with the nail wound,—was indeed separated from it by considerable tract of tissue only moderately inflamed. There was in this case a history of severe independent injury at the point where the greatest inflammation existed, namely, over the left frontal region, and it is possible that the two centres of injury were each independent of the other. Either one would

have been sufficient to produce the fatal result. The paralysis and helplessness of the right side of the body were undoubtedly traceable to the nail wound, and yet the point where the nail entered was the centre for control of the leg, while the arm was more decidedly paralyzed. This is perhaps accounted for by the fact that the nail in its very oblique course forward reached, and perhaps produced most disturbance at a point just underneath the centre for the arm and shoulder.

The other symptoms were those often met with in meningeal inflammation, and the difficulties of speech and articulation indicate that the third frontal convolution was disturbed by the extensive inflammatory process producing motor aphasia, but the sudden failure of power of speech at moment of extraction of nail remains difficult of explanation. The stupid and inactive condition of the patient mentally, however, was such as to obscure in a certain degree these symptoms.

Certain questions are presented by the peculiarities of this case as to the nail wound.

1st. When was the nail driven in?

2d. How was the nail driven in?

3d. Why was its pressure not discovered earlier?

1st. As to the time when the nail wound was inflicted. It would seem that this must have been after the patient had become insane, and during the time he was alone at his farm. It is difficult to conceive of his driving it into his own head, but even more so to think of any other person driving it in for him.

2d. As to how the nail was driven in. It would appear possible that after the patient had become insane and partially delirious with intense pain in his head he may have imagined he could relieve the pain and pressure by making a hole in his head, and perhaps knocking powerfully against the wall and holding the nail so as to penetrate the skull, and yet this would not have sufficed to carry the nail head through the scalp and fix it against the bone where it rested as firmly as if it had been driven into a board. It is perhaps no more difficult to conceive of his even using a hammer and a nail punch than to credit the case which has been reported of the insane convict in the Kansas prison, who drilled several holes through his skull and riddled his brain with wires, living in that condition for some time I believe. It is to be remembered the patient said to his brother, "You don't know what I have done to myself."

Finally, as to the delay in discovering the nail, which was in the patient's head three weeks in the hospital and probably two weeks before his admission.

I think that this delay was due to the fact that after the introduction of the nail the scalp healed up over it entirely, or formed a small scab. It was a perfectly clean galvanized nail, and the well known readiness of scalp wounds to heal led to the closing up of the wound made by the nail and to its remaining closed until irritating matter was formed in the deeper-seated tissues.

The patient's head was examined with, if anything, more than usual care when he was admitted, owing to the friends stating they thought his head was injured, but nothing was found, and if a small scab had been noticed, no physician would have thought of removing it in order to look for the head of a nail underneath.

Finally, when the patient's hair was clipped and a small sinus opened, the discovery was made.

Another noteworthy fact in this case was that no marked symptoms of motor paralysis were present until after the removal of the nail.

*II. Case of J. J. Division of occipital bone by a butcher's cleaver, exposing occipital lobes of brain and uncovering a portion of brain surface measuring three inches transversely by two vertically. Parts restored, wound dressed antiseptically and healing by first intention secured. Recovery without motor or sensory disturbance.*

Case of J. J. Occupation, butcher; age, 32; married. Physically robust. Habits good except formerly accustomed to go on sprees. Father died by an accident at thirty. Mother living at fifty-six, and in good health.

This man had been employed as butcher at the State Insane Hospital at Kankakee for about one and a half years, and had working with him a patient, John Hoffman, who had assisted in work at the slaughter house for about three years. This patient had never committed any act of violence, though it was subsequently learned he had at times been threatening in language and demeanor, which facts however had unfortunately never been reported at the office. His assault upon the butcher was therefore a surprise, and the man assaulted himself stated that he had never supposed "Hoffy" would do anything to hurt anyone, although



he talked a good deal. On the 19th day of February, while the butcher was slaughtering cattle, assisted by Hoffman, the former leaning over at his work, suddenly noticed that Hoffman had the cleaver raised in the air to strike him. He quickly raised his own head, by so doing probably escaped an instantly fatal wound. The cleaver was an eight pound one, and when brought down struck the butcher on the top of the head, about three-fourths of an inch above the occipital protuberance, cleaving off the posterior portion of the cranium a piece of bone three inches in width by two and one-half inches in vertical measurement. The wound included both the scalp and bone and had perfectly clean cut edges, except that the lower border of the bone was fractured across and remained hanging with the soft parts at the back of the neck. A hinged shaped flap was therefore produced with a crescent shaped wound which measured  $7\frac{1}{8}$  inches in circumference from angle to angle, and  $4\frac{3}{4}$  inches in a direct line, and left both occipital lobes of the brain wholly exposed and in full view. The dura mater fortunately, remained intact. The butcher on receiving the blow was momentarily stunned, but instantly recovered himself and walked to the elevator which was being lowered. He jumped upon this, a distance of about four feet, and descended to the basement floor, and started to walk to the farm house, a distance of over an eighth of a mile. He made more than half the distance alone, then became dizzy and reeled and fell, but was found and helped up by two men and with their assistance he walked the rest of the way. When Dr. Riese arrived he was sitting in a chair in the basement room of the farm house, showing no bad symptoms, but a little faint. He was placed in a recumbent posture and given blankets and hot applications with stimulants. He was conscious and talked clearly to Dr. Dewey when he arrived a few minutes later and said he never thought Hoffman would hurt anyone, and preferred him to another patient who had formerly worked there. His pulse was weak, as he had lost much blood, was still bleeding heavily from the occipital artery on left side and from several smaller vessels. These were taken up and controlled, and digitalis and brandy were given. There was considerable necessary delay in getting instruments, dressings and antiseptic precautions attended to, but the wound was finally carefully cleansed of dirt, hairs and small spiculæ of bone; lint sponges were soaked in five per cent carbolic solution. A finger was passed in under the lower border of occipital lobes and

several accumulated clots removed, there was no opposition to passage of finger an inch or more inward.

Hemorrhage being controlled and oozing having ceased, and the scalp having been shaved, (a difficult operation on the loose flap,) and washed with sol. bichlor. ~~the~~ the bone and scalp were replaced with all the antiseptic precautions; the flap was sewed up putting in seven deep sutures including one-half inch of scalp on each border but not drawing stitches tight. A fenestrated drainage tube was also sewed in at each end of the wound. The patient endured the operation well. There was much pain from needle on upper border of wound, but no feeling whatever on lower border. After wound was closed and before dressing was applied there was some gaping between stitches and every movement, or incipient movement of the head made the flap move spasmodically.

A compress covered with iodoform was applied along the wound and the head was carefully bandaged with bichloride gauze. All this time the pulse had been fairly regular and had improved in strength under stimulants and there was no marked appearance of shock.

The patient was now carried up two flights of stairs and placed in bed in the best front chamber of the farm house which was a new building just occupied, and two of the best trained attendants detailed to look after him, one for night and one for day duty. He was given a hypodermic injection of morphine and became soon comparatively comfortable.

From this time on there is not a great deal to report, except that he remained free from all serious symptoms. His temperature never went above 101. He slept well that night. We had to contend with obstinate constipation, and he had to be catheterized for two or three days, and he complained of pains in his back and stomach, but never of his head. On the third day the wound was examined and found to have healed by first intention, except at angles where drainage tubes had been left. There had been scarcely any discharge from these and they were removed and the wound carefully dressed antiseptically under carbolic spray. On the sixth day the stitches were taken out. The patient was daily examined as to the state of special senses and general sensation and motion, and never at any time was any sensory or motor abnormality discovered. His mind and perceptions remained clear and natural throughout. Sleep generally good and appetite so

good that he rebelled against the dietary precautions taken. His recovery was gradually established.

The injury was received on February 19th, and on April 14th the patient went to work again at his old position in the slaughter house of the hospital and is there to-day, (August, 1890,) as well as he ever was and is doing his work with entire satisfaction,\* but without the assistance of the patient Hoffman, it is perhaps needless to say.

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\* Patient remained as above until October 15, 1890, when he left the employ of the Hospital.

## THE TRANSMISSION OF ACQUIRED VARIATIONS.

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The many problems connected with the subject of heredity are just now attracting the attention of a large number of investigators, and their researches cover a wide field. Mysterious and difficult as many of these problems are, they are gradually receiving elucidation, and from the lines which the investigation is at present following, much may be anticipated. There is a growing tendency among scientists to accept only that which is not only consistent with *à priori* reasoning, but supported by facts as observed in nature.

Among naturalists more particularly, there has arisen an interesting discussion which has, to some extent, taken on the nature of a controversy, regarding some of the fundamental principles on which are based the generally accepted theory of hereditary transmission. This discussion is both interesting and instructive, and cannot fail to add much to the stock of knowledge now possessed of this wonderfully fascinating subject.

The object of this paper is to present a cursory review of some of these arguments, and if possible, make some deductions which may be of interest to us as alienists. Heredity is a subject which commands our attention daily, and any elucidation of its problems will be valuable to us in giving definiteness to our opinions, and confidence in its treatment.

Development by evolution from the simpler to the more complex, is now the generally accepted view among scientific investigators as to the origin of the multiplicity of organisms at present in existence. It seems impossible to take a comprehensive view of comparative physiology, without being compelled to accept this theory in greater or less degree.

As in all other investigations into the operation of nature's laws, we learn much by turning our attention to those simpler forms of life, where the problem is less complicated, and its elucidation, therefore, less difficult. The nature of the vital principle is such that it is only in its simplest forms that we can approach, even with diffidence and great uncertainty, the fountain from which it

has its origin, around which, even here, hang impenetrable mists and the shadows of the infinite.

All organisms must of necessity possess the capacity of reproduction, and the power of resisting and utilizing, in greater or less degree, the elements within or about them. In unicellular organisms the entire organization possesses this functional capacity. Reproduction is by simple subdivision, the substance of the cell, when by the assimilation of nutriment from the exterior, it has reached a certain size or degree of development, dividing by fission into two cells similar to the parent and in every respect of like composition. The substance of the parent constitutes the offspring, and this substance is, in certain instances, seen to circulate during the process of fission from one to the other, until finally through the extension of the line of separation, this circulation becomes limited to each resultant cell. Being of the same substance as the parent these offspring would seem of necessity to resemble it in all their properties and vital manifestations. They are, however, subject to the influences of the conditions under which they exist, and while, of necessity, retaining their identity and structural continuity under certain more or less favoring circumstances, they are nevertheless susceptible to molecular readjustment by changes in their environment. This is *à priori* reasonable and in harmony with the results of scientific observation and experiment. While there is therefore a certain continuity of structure from generation to generation, resembling immortality, there is also such a variability from changes in nutritive supply and external conditions that we should hesitate to apply this term, with its implied immutability of structure and unchangeable functional capacity.

While agreeing with Prof. Weissman and his followers, therefore, in his theory of the continuity of germ plasm and the transference from generation to generation of the identical structural elements of the parent, we would hesitate to call this germ plasm immortal. This term implies an unchangeableness and an immutability that is likely to mislead those who make use of it. If, however, there is conceded in this use of the term immortality, such a mutability that there may result in the course of successive generations, such modifications and structural rearrangement, in the process of waste and repair, as to result even in the transference of the resultant organism from one species to another, there can be no objection to such use. I should prefer, however, the much less misleading term *continuity*.



In the process of organic development, unicellular structures soon became multicellular. According to Weissman, this is explained as follows: "In the course of the phyletic development of the organized world, it must have happened that certain unicellular individuals did not separate from one another immediately after division, but lived together, at first as equivalent elements, each of which retained all the animal functions including that of reproduction." (See page 75, *Essays upon Heredity*, Clarendon Press.)

He then argues that the principle of division of labor determines a differentiation among them, and it is just at this point that a variance of theory occurs among biologists as to the cause of this differentiation.

The Lamarekian school contend that this division of labor arises from the difference in the conditions under which they exist, in the earliest stage, the variation in position alone deciding the direction of the functional activity, and consequently the structural development.

Weissman's explanation is as follows: "Supposing that the hypothetical colonies, which are at first entirely made up of similar cells, were to gain some advantages, if in the course of development, the molecules of the reproductive cells, from which each colony arose, became distributed irregularly in the resulting organism, there would be a tendency toward the perpetuation of such a change, wherever it appeared as the result of individual variability. As a result of this change, the colony would no longer remain homogeneous, and its cells would become dissimilar from the first, because of the altered arrangement of the molecules in the reproductive cells." (See *ibid.*, page 78.) This is the birth of the theory of congenital variation and natural selection, and marks the origin of the explanation, which in the minds of its adherents, justifies the denial of the accepted view, that the changes in organisms resulting in use and disuse, and those due to environmental causes, may be transmitted from parent to offspring.

Now, with all due respect to so distinguished authority, it would seem that Weissman's view necessitates the assumption that germ plasm, uniform in structure throughout, and producing cells also of uniform structure each with the other, from no explainable cause begins first to produce cells that adhere after division instead of separating, though still retaining their uniformity of structure, and that afterwards from the same mysterious and unknowable cause, certain of these take on the reproductive functions in greater

degree than their fellows, they at the same time assuming other functions in the place of those lost, all through fortuitous molecular rearrangement of the plasm out of which they were all formed. Is this theory more reasonable or more consistent with facts than that which explains the primary adhesion of the similar cells, by the influence of incidental difference in position or nutritive supply, and their further differentiation by the same cause? It is inevitable that in such homogeneous cell colonies, those on the exterior should be more exposed to the destructive influences of surrounding conditions, and should be called upon more frequently to withstand them; that they would come first into contact with nutritive elements, and would of necessity first take hold of these, appropriate and select, and even modify the material which they would thus acquire, before it would reach those cells on the interior, and that *consequently*, the form in which this nourishment finally reached these interior cells would not be, in all respects, similar to that which their parents appropriated, when living in isolation.

It may seem frivolous, gentlemen, to dwell so particularly on such minutiae, but this, to my mind, contains the gist of the whole subject, and determines the entire course of the future development or rejection of the theory of the transmission of acquired characters, with which we are not uninterested as alienists and students of anthropology.

One of the most important points in the discussion, is the acquisition by the reproductive cells of the power to reproduce not only cells similar to themselves, but all the somatic cells of the more complex organisms. Weissman says: "Each reproductive cell potentially contains two kinds of substance, which at a variable time after the commencement of embryonic development, separate from one another, and finally produce two sharply contrasted groups of cells." (Essays on Heredity, page 74.) One is the substance of the "undying reproductive cells," the other that of the "perishable body cells," and he holds that there is a marked antithesis between these. Now when, at what point in the differentiation of structure and function, did this change occur by which cells of uniform structure came to be constructed of two kinds of substance so markedly in contrast as to be called antithetical. It does not seem probable that accidental variation would originate a new kind of substance antagonistic to the substance of the parent cell, for all instances of variation, and all experiments demonstrate that such variations are limited to comparatively

small areas in successive generations, and the new tissue or substance thus originating, is closely allied in nature to that from which it is derived.

An illustration is given in Wallace's *Darwinism*, page 43, that may make plain my meaning.

"In the small forest region of Oahu, one of the Sandwich Islands, there have been found about 175 species of land shells, represented by 700 or 800 varieties, and Rev. J. T. Gulick, who has carefully studied them, says that we frequently find a genus represented in several successive valleys by allied species. In every such case, the valleys that are nearest to each other furnish the most nearly allied forms, and a full set of the varieties of each species presents a minute graduation of forms between the more divergent types found in the more widely separated localities." Not only are the variations minute, but the most divergent types are found in the most widely separated localities. It seems that there could not be stronger evidence that such variations are not accidental or spontaneous in any sense, but that they bear a direct relationship to the changes in environment and nutritive supply.

Many of the difficulties disappear if we assume that there is not the great difference between the reproductive and somatic cells that the terms undying and perishable would lead us to infer. All admit that the reproductive cells contain "potentially" the substance of all other varieties of cells, but if they contain it "potentially," it must be only by special molecular adjustment, for science knows of no potentiality except that conveyed by structural arrangement.

If the reproductive cells are immortal because a portion of their tissue goes over to the succeeding generation, and this portion contains not only the tissue of the reproductive cells, but that of the somatic cells as well, then the somatic cells are also immortal, for a portion of their substance passes unchanged from generation to generation just as does the substance of the reproductive cells proper. To say that they only possess this "potentially" is mystifying the subject with worse than useless verbiage. Either then, no part can be called immortal, or the entire organism is immortal, for it is all represented in the substance that passes from generation to generation.

Passing the interesting questions of the origin of cell differentiations and the continuity of germ plasm, let us consider the more practical, and to us the more important one of hereditary

transmission. We have been so accustomed to speak of the transmission of acquired variations, that we can scarcely conceive that it should be denied. There has arisen, however, a school of scientists who have developed an interesting and plausible theory, which to their minds, effectually does away with the view so long held, and they even assert that there is no evidence whatever that acquired characters are ever transmitted. They assert that there is no instance on record where any character or variation acquired by an organism is reproduced in the offspring. Weissman says: "The molecules of reproductive protoplasm, when well nourished, grow and increase without altering their peculiar nature and without modifying the hereditary tendencies derived from the parent." (Weissman on Heredity, page 74.) Also: "The substance of the germ cells transfers its hereditary tendencies from generation to generation, at first unchanged and always uninfluenced in any corresponding manner by that which happens during the life of the individual which bears it." (Ibid., page 69.) The saving clause in this is "in any corresponding manner," and yet its introduction concedes the vital point in the controversy, for if there is any influence whatever that is transmitted, it establishes the point for which the Lamarckian school contend. To say that it is not productive of results, "in any corresponding manner," is simply to say that the changes in conditions in passing from parent to offspring are so complex that they cannot at present be understood nor their relative effect determined.

The thousands upon thousands of incidents affecting an organism, from the moment its identity is established, must constantly vary, and as a consequence no two individuals of any variety of any species are exactly similar. Why is it, however, that twins as a rule resemble one another more closely than other members of the same family? The most reasonable explanation, surely, is that the conditions under which they have developed, their environment and nutritive supply, are more nearly similar. Even here causes of variation are not wanting, because the portions of germ-plasm forming the two cells from which they start may separate from different portions of the reproductive organs, and may have varied in many respects one from the other. As a rule it will, I think, be found that the variations among individuals of the same species have a more or less definite correspondence with the amount of variation in their environment and nutritive supply. The inhabitants of the arctic regions differ more from those of the equatorial

countries than do those of any two portions of the same latitude. Furthermore, the variations that occur in germ plasm cannot, on any reasonable basis be said to occur suddenly, but are matters of comparatively gradual development. Neither do they occur at any particular stage in the life of any particular cell. They certainly cannot be thought to take place only during the process of separation, for the condition of the germ plasm at that point is not different from what it was before the separation, nor that of the new cell afterwards, as long as it continues to grow. There would seem to be but two ways in which these conditions may change, and these are variations in the supply of nutrition and changes in external conditions.

An illustration from Wallace again, page 427, though adduced by him to show just the opposite, is to me most convincing proof of this influence. This is an instance of the transformation of species among crustaceans by a change in the saltiness of the water.

"*Artemia Salina* lives in brackish water, while *Artemia Milhausenii* inhabits water which is much saltier. They differ greatly in the form of the tail lobes and in the presence or absence of spines upon the tail, and had always been considered perfectly distinct species. Yet either was transformed into the other in a few generations, during which the saltiness of the water was gradually altered. Yet more, *Artemia Salina* was gradually accustomed to fresher water, and in the course of a few generations, when the water had become perfectly fresh, the species was changed into *Branchipus Stagnalis*, which had always been considered to belong to a different genus on account of differences in form of the antennae and of the posterior segments of the body." This certainly, as he says, "appears to be a proof of change of conditions producing a change of forms, independently of selection, and of that change of form, while remaining under the same conditions, being inherited." Yet, he attributes all this to a chemical change in the water and that this water permeates all parts of the body, reaching the ova and the reproductive elements, and thus modifying the whole organism; and he argues from this, therefore, that "no inference can be drawn of like changes in more complex organisms." Now, the admission that the changes in the chemical constitution of the water affect the reproductive cells and that this change is transmitted, is a concession of what, as I view it, this school all along deny, viz.: that changes in the quantity and



quality of the nutriment, and other modifications of the external conditions, modify the reproductive cells, and that this modification appears in the offspring.

These crustaceans receive their nutrition from the surrounding media, and the degree of salineness of the water is an important element in their nutritive supply. Moreover, this water does not come into direct contact with the reproductive cell, but first permeates the somatic cells, those devoted to the preparation of nourishment, and we have no reason to infer that it undergoes no change in passing through these. It is quite reasonable to explain the changes in body cells by modifications in the surrounding media, and the functional modification thereby necessitated in them, and that all these changes affect the molecular arrangement of the reproductive cells by altered nutrition. This illustration is, to my mind, not in any respect different from the principle which underlies all variations even in the most highly differentiated organisms. In these we would not expect to find such manifest evidences of the influence of any particular change in environment, for the effect of the other necessarily accompanying modifications in conditions cannot be measured nor estimated. The probability that any given variation will be transmitted, depends upon the degree to which it affects or modifies the nutrition of the reproductive cell, and therefore produces in it a molecular rearrangement. For instance, the strong arm of the blacksmith is not very likely to appear in the offspring, because limited to a comparatively small portion of the body, and the modification in the nutrition of the reproductive cell is consequently slight. Should, however, the nutritive supply be so deficient or be so changed in character, or should there be such change in environmental conditions as to modify decidedly the whole muscular system, or change the relative size and strength of the osseous system, or impair or enhance the development of the nervous system, it is very probable that the nutrition of the reproductive cell would be also affected and its molecular distribution thereby modified.

The development of the central nervous organs in man may be taken as a typical illustration of the evolution of complex organs highly differentiated in function.

The uses of this central organ are so various, and its requirements in the way of protection and connection with other parts are such, that there is a necessary condensation in structural arrangement which is extreme, and results in the most remarkable complexity in arrangement of tissue elements.

A further requirement of these conditions is the high degree of differentiation in function, which we see in this organ. Comparatively small areas of tissue have separate uses and are in reality separate organs. This necessitates a rearrangement of the method of nutritive supply, permitting its variation in these different small areas or separate organs, as their functional activity demands, without at the same time disturbing the adjoining organs or areas.

The blood vessels of the brain, therefore, present peculiarities in structural arrangement which are quite different from the arrangements for nutritive supply to the body in general. Each terminal system is independent of those adjoining. This permits independent activity of the regions supplied by each, but necessarily at the expense of its safety, for should this channel of nutritive supply become obstructed, its place cannot be taken, as occurs in other portions of the body, by the vessels adjoining. Now, such a condition, while permitting the highest degree of functional activity of this particular area and multiplied in the different areas, results in a higher functional differentiation in the brain in general, but can scarcely be said to give greater security to the perpetuity of the species. It certainly multiplies its sources of danger and death, and it is also true that a high degree of differentiation in function in the central nervous organs is usually connected with, if it does not necessarily result in, impairment of the activity of the reproductive organs. The germ plasma is not produced in as great abundance, and its functional activity is diminished.

These facts, though consistent with the development and perfection of tissue arrangement from use, would seem inconsistent with the theory of the universal influence of natural selection.

Parental indulgence in alcoholic drinks, if habitual and excessive, is a potent source of the convulsive neuroses in the offspring, and often results in imbecility, idiocy, epilepsy or deafmutism, all indications of arrested or imperfect development. When inherited insanity is due to this cause, it is usually that which occurs during the developmental period. All this would seem to indicate that the effect of the acquired habit, not only impairs the nervous system of the individual himself, but is transmitted to the offspring, modified necessarily by the elements received from the other parent and the multitudinous variations in the surroundings of the succeeding generation. It is not necessary to show that the habit of intemperance is transmitted, but that the morphological changes and predispositions in the brain tissue, resulting from the habit, are repeated in the child.

Recurrent insanity is a form of mental disease in which the hereditary predisposition is pronounced, insanity in the ancestors being found in about 36 per cent of the cases, and not only in the generation first removed, but in those further back. Chorea, hysteria and epilepsy are also inherited in marked degree, and in the insanity of adolescence are found in 20 per cent of the cases. In recurrent insanity, however, these diseases are only found in the ancestry of four per cent of all the cases. Now, why is it that particular forms of disorder in the parent give rise to certain forms only of mental disease in the offspring, and why do those originating in one kind of vicious habit in the parent vary from those due to other inherited causes? Again, the neuroses of early life, chorea, epilepsy, &c., are prone to reassert themselves in the offspring at a similar epoch. Does not this indicate that the *attack* in the parent and not the predisposition alone, determines largely the *form* of inherited predisposition in the child?

Take the case of traumatism as a cause of insanity. It often produces not only a predisposition to insanity in the child, but is prone to develop certain forms of mental disease in the offspring. According to Bevan Lewis, 20 per cent of cases of recurrent insanity in males had suffered from cranial injury;—18.9 per cent of cases of alcoholic intemperance also suffered from the same.

Again, when alcoholic intemperance is a factor in the causation of epileptic insanity in the offspring, it not only operates as a cause of the disease in general, but determines largely the form which it will take, nearly all cases of epileptic insanity due to this parental cause being those of epileptic mania.

The period of puberty and adolescence are, as Bevan Lewis well says, "characterized especially by a tendency to reproduce ancestral developments, whether normal and physiological, or only deviations from the laws of health, the new character appearing at corresponding periods in life of parent and offspring." This shows a close sympathy between the development of the reproductive cell and all the processes of development in the somatic cells, and precludes the theory that such variations, even assuming that they are accidental in origin, are perpetuated through the influence of natural selection, because they are in no sense fortuitous or of advantage to their possessor. It also indicates that the entire nervous system is profoundly affected during the process of ovulation, and affords a most reasonable inference that deleterious influences affecting the nervous system at this epoch would leave their impress on the reproductive cell.

If Darwin's observations are reliable, and no one, I presume, will doubt it, the following conclusion, at page 232 of his "Descent of Man," has a most important bearing on the transmission of acquired variations, viz.: "that variations appearing in either sex, before sexual divergence is well established, will probably be transmitted to either sex of the progeny; and that variations occurring later in life, when sexual divergence is complete, will be transmitted to the same sex." If this be true, does it not demonstrate conclusively that variations acquired by the somatic cells affect directly all portions of the reproductive cell, but that those parts of it determining the sexual differentiation of the offspring, cannot receive impressions until they are themselves differentiated in the process of growth and development.

In the more complex organisms, whole tracts of the nervous tissue lie dormant and undeveloped until the approach of the period of activity of the reproductive organs, and then any disturbance in these organs is transmitted through these nervous tracts to other portions of the nervous tissue, and generally through them to all the somatic cells. Now, is there no current in the opposite direction—do the reproductive elements, and their nervous tracts, which should histologically be considered a part of them, receive no impression from disturbances in adjoining parts of the nervous tissue? This is not reasonable, and if they do receive such impression, how can they avoid transmitting it to the new organism?

The interdependence of the reproductive and somatic elements is further shown in the frequent association of ovarian disorder with disease of the general nervous system. Menstrual derangements are the frequent accompaniment of many forms of mental disorder and general nervous disease. Bevan Lewis well says that the appearance of the menstrual period "is a great cyclical developmental stage, in which the unfolding of the generative system goes on, *pari passu*, with its representation throughout the innermost penetralia of the central nervous system." Persistent derangement in the menstrual functions inevitably leads to nutritive changes in the nervous system, expressed often in terms of mental disorder, and cerebral derangements often modify or arrest the menstrual flow. The same author says, "The ebb and flow of the developmental tide are registered faithfully in the nervous centres by a similar wave," and "derangements, amenorrhœal, dysmenorrhœal, &c., are attended by deranged cerebral functions correlated thereto." These conclusions show the close



relationship existing between the development of the reproductive elements and the somatic cells of the organism, and render extremely probable their interdependence, and the consequent affection of the one by causes modifying the condition of the other.

The conclusions, then, which it seems reasonable to adopt from these facts are, first, that there is a certain continuity of germ plasm in the sense that a portion of the reproductive cell passes over to the succeeding generation, and forms the *nisus* from which is developed the future organism. Second: That this transmitted plasm contains as well the elements of the somatic cells of the reproduced organism, and that, therefore, all portions of the resulting structure are immortal in the same sense, but only technically so. Third: That variations occur in the molecular arrangement of the germ plasm as a result of variations in the quantity and quality of the nutritive supply, and of changes in the environing conditions. Fourth: That the law of heredity, an essential and inherent property of organic life, will reproduce this variation, unless modified or diverted by modifications in environment and nutrition. Fifth: That when this variation is of advantage to the individual, it thereby enables it the better to withstand the inimical influence of its surroundings, or to appropriate in greater quantity, or to utilize more effectively its supply of nourishment, and thereby is the more likely to reappear and increase in degree in succeeding generations. Sixth: That every organism will transmit to its offspring the precise peculiarities of its own structure as they exist at the moment of the cessation of nutritive supply from the parent to the reproductive cell, but that in fact these organic peculiarities are never reproduced without more or less modification, because changes in environment and variations in the quantity and quality of food supply are constant, no two individuals of the same species existing under precisely the same conditions. And, Seventh: That the theory of panmixia, or the withdrawal of the influences of natural selection as a factor in the modification of structure, is nothing more nor less than this: that rearrangement of environment, including in this, changes in the quantity and quality of the nutritive supply, necessitates modification of functional activity, and that this through the law of organic development leads to molecular readjustment, whereby the organ whose function is modified becomes changed in structure. The organism which thus successfully adjusts itself to its surroundings survives and tends to perpetuate



its acquired variation, unless further changes again divert its functional energy.

Now, gentlemen, it matters but little to us whether we accept this or that theory, as far as theory is unsupported by facts.

When all analogy and reasonable inferences are favorable to any particular view, however, and when the acceptance or rejection of this has a direct bearing upon our practical every day duties, it is incumbent upon us to investigate thoroughly, and give the weight of our influence in favor of truth.

I confess it has always been to me a source of satisfaction and encouragement to believe that in every case, where an attack of insanity was warded off, or its severity and duration modified, the beneficial result accrued not only to the individual himself, but passed on in unbroken line through generations yet unborn. Whenever any adjustment of environment in the case of the insane, whenever improved methods of treatment, favorably modifies the form of the mental disorder, I believe this favorable modification tends to show itself in the modified neuroses of the offspring, and that in this way, we are to-day noting the beneficial effect and reaping the fruits of the wonderful work of our noble fathers, in lifting out of the mysticism and bigotry of the supernatural, the care of our defective or unfortunate brother, guided, as their labor has always been, by the spirit of compassion and the sympathy of fraternal love.

## ABSTRACTS AND EXTRACTS.

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THE NATURE OF NEURASTHENIA.—Professor Kowaleski, of Charkow, proposes a chemical hypothesis to account for the phenomena of this condition. Neurasthenia may either be acquired or congenital. The acquired form may be divided into two principal varieties. In the one, there has been excessive mental strain or exertion with insufficient nourishment. The brain, along with the rest of the body is starved, and naturally enough fails to properly perform its functions. The other form is found principally in those who lead lives of intense mental activity within the narrow field, and with little physical exercise. The tendency of modern civilization to specialism leads to a restriction of the mental activity to a limited range of topics, tending to local exhaustion of the brain. This is not incompatible with an abundant supply of food, which, in consequence of the sedentary lives often led by brain-workers, may aggravate the evil, poisoning the brain by the accumulation of imperfectly assimilated and excrementitious matter. To this must be added the pernicious effects of alcohol, tobacco, tea and coffee, taken to stimulate the flagging energies, and the custom of taking an insufficient amount of sleep to enable the brain to make good the losses of the day. The sufficiency of general toxæmia to produce the condition in question is shown in gout, the subjects of which are generally in a marked degree neurasthenic.

The congenital form, so far as it is not connected with anatomically demonstrable anomalies of the nervous system, must be considered due to some defect of organization which may reasonably be conjectured to be an abnormal chemical constitution of its elements. In view of the frequency of neurasthenia and allied disorders among the children of drunkards, it seems probable that poisoning of the nervous system of the parent may result in defective chemical composition of the nerve-elements of the offspring.

The author concludes by expressing the anticipation of great progress in medical science from a study of the chemical constitution of the various histological elements of the body and of the composition and physiological effects of the ptomaines and leucomaines generated in health and disease.—*Centralblatt f. Nervenheilk., September and October, 1890.* W. L. W.

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SURGERY OF THE CENTRAL NERVOUS SYSTEM.—Horsley, of London, read a paper on the above subject at the International Medical Congress at Berlin, illustrated by exhibition of photographs with the magic lantern. The following are some of the more important conclusions at which he arrived:

Operation should be done in every case of injury to the brain; it is the only means of restoring the patient to a normal condition, and may prevent epilepsy and dementia.

In every case of intracerebral hæmorrhage seen within four hours of the apoplectic attack, the common carotid artery should be tied. Horsley and

Spencer had found, in experiments on monkeys, the bleeding from cutting the lenticular artery was checked by ligation of the common carotid, an operation which he did not consider very dangerous.

Trephining should be practised in all cases of headache which prove refractory to all other measures.

Drainage should be practised in aseptic meningitis. The author had operated in two such cases; both patients died. In localized inflammatory processes and cerebral abscess relief can be given by operation.

In pachymeningitis, when seen in the early stages, it is of advantage to remove thickened portions.

Cerebral gummata should be removed. Iodide of potassium palliates, but does not cure them.

Tubercles should be removed where practicable.

In other tumors, even when multiple, resort should be had to operation if the patient does not obtain decided relief within six weeks.

Operation should be done in athetosis and other spasmodic affections. In one case in which the author had operated, the movements returned, as he believed, because he had not removed enough of the centre involved.

In focal epilepsy (Jacksonian epilepsy without demonstrable lesion) the cortex should be tested with the faradic current till the spot is found from which the convulsions originate, when it should be excised.

Encephalocele is to be treated by electrolysis.

In fracture of the vertebral column, operation should be done in case of symptoms of compression, although the prospect of relief is less favorable than in fracture of the skull.

In paraplegia from spinal caries the author had obtained satisfactory results in five out of six cases.

He had done forty-three operations on the brain, with ten deaths. Of nineteen operations on the vertebral column, one had proved fatal.

In the discussion which followed, Dr. Erb, of Heidelberg, said that in cases of operation the neurologists needed to be surer of their diagnosis than heretofore. He was surprised at some of the indications laid down by Mr. Horsley. Especially in the case of incipient hæmorrhage, who would undertake to say, within four hours, that hæmorrhage was present? In the case of tumors also, he had frequently had opportunity to convince himself that there is less certainty about the local diagnosis than is desirable for the surgeon.

At the same meeting, Dr. Burkhardt, of Préfargier, advocated the excision of portions of the cerebral cortex in the treatment of the ordinary psychoses, when the symptoms gave reason to suppose that any particular portion was specially involved. He gave histories of several cases in which improvement had been effected in this way. In view of the otherwise bad prognosis in such cases, he considered that his results justified the treatment. The first case was of a demented person with outbreaks of violent rage in consequence of hallucinations originating in the centres for sight, hearing and speech. Four excisions were made of small portions of the cortex before and behind the central convolutions, and the patient's condition improved after each operation. He was no longer violent, and could associate with other patients. The

dementia, had rather diminished than increased. The second case was of excited dementia of syphilitic origin. Two pieces of the cortex were excised in the frontal region, to which the symptoms were referred, and a quiet condition supervened. The intention was to remove a portion of Broca's convolution later. In the four remaining cases, of paranoia with tendency to dementia, portions of the first temporal convolution were removed for the relief of hallucinations of hearing. There was more or less improvement in all of them. Word-deafness followed the operation in two of the cases. One of the patients subsequently escaped and was drowned, and another died in consequence of hæmorrhage into the dura mater on both sides,—how long after the operation is not stated.—*Ibid.*

W. L. W.

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CEREBRAL LOCALIZATION.—At the same meeting, a paper by Horsley and Beevor was read, giving the results of experiments on the movements produced by faradization of the brain of the orang-outang. They concluded that the localization is substantially the same as in man. The higher in the scale of organization the animal experimented on, the stronger must be the electric current in order to produce movements, and the more definite are the boundaries of the different centres.

In the same paper an account was given of experiments on the basal ganglia and internal capsule of a monkey, (*Macacus simius*.) Sections were made at eight different levels, and forty-five experiments in all were made. The basal ganglia were found to be inexcitable, both on the ventricular surface and the section. In the internal capsule, on the contrary, areas for definite movements were found, corresponding, from before backwards, to the excitable areas in the cortex.—*Ibid.*

W. L. W.

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THE TRAUMATIC NEUROSES.—Schultze, of Bonn, read a paper on this subject at the same meeting, with special reference to "railway spine" and "railway brain," the conclusions of which he sums up as follows:

1. There are different kinds of psychoses and neuroses produced by trauma, but there is no "traumatic neurosis," and it is better to use the name of the disease present.

2. Concentric contraction of the field of vision and anæsthesia are often wanting, and are not characteristic.

3. So-called cases of "traumatic neurosis" are often the product of simulation and aggravation.

4. No definite criteria for simulation can be laid down at present.

An animated discussion followed, in which a large number of prominent men took part. Nothing of importance seems to have been brought out by it, except a very wide diversity of opinion as to the frequency of simulation in such cases and the ease of its detection.—*Ibid.*

W. L. W.

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NICOTINE PSYCHOSIS.—Kjelberg, of Upsala, read a paper before the Congress on a form of insanity produced by the excessive use of tobacco, especially by chewing, of which he had seen numerous cases.

He recognizes, besides a prodromal stage, three stages of the fully developed disease. In the prodromal stage, which usually lasts from six weeks to three months, the patient is disinclined to any occupation, gloomy and depressed, and subject to attacks of præcordial distress. The first stage of the developed psychosis is characterized by hallucinations of hearing, sight and touch, with delusions. This lasts for six or seven months, and is succeeded by a maniacal stage, in which the expression of the face is elated, and the patient sings and talks incoherently. Hallucinations are usually present in this stage, which presents intervals of moodiness, with diminished attention. In the final stage the condition of these intervals becomes continuous. The patients are inactive but sensitive; memory is impaired and the expression is lacking in animation.

The prognosis is good in the first stage, provided the cause can be removed, and recovery may be hoped for in the second stage; the third stage is hopeless. The most important part of the treatment is the prohibition of tobacco; tonics and hypnotics are to be given according to the requirements of the case.—*Ibid.*

W. L. W.

THE PATHOLOGICAL ANATOMY OF PARALYTIC DEMENTIA.—Mendel, of Berlin, on the same occasion, read a paper on this subject, confining himself to the microscopical changes.

1. *Neuroglia.* Two changes: increase of nuclei and increase and enlargement of spider-cells. The latter are only found, in the normal brain, in the superficial layer of the cortex. If the disease is of long duration, sclerosis develops through fibrous degeneration of the cortex; in case the medullary substance is principally affected, it may be possible to wash the cortex away from it with a stream of water, especially when the body is not entirely fresh.

2. *Bloodvessels.* Increase of nuclei in the walls of the vessels; thickening of their coats—hyaloid degeneration.

3. *Ganglion-cells.* Alterations of the protoplasm, sclerosis and atrophy, are found in most cases. Gudden found them in all.

4. *Nerve-fibres.* The disappearance of the nerve-fibres is not confined to the cortex, but is a general affection; it has been observed in the gray matter of the ventricles, and in the cerebellum.

The degeneration of the nerve-fibres is not specific for general paralysis; it has been observed in alcoholic paralysis, senile dementia, epilepsy, and other psychoses.

Focal lesions have long been observed in this disease.

In the spinal cord, the most various alterations may occur—all the different forms of systematized sclerosis, separately or in combination, and the various forms of myelitis.

Although there is no specific lesion of this disease, it is, nevertheless, a disease *sui generis*, which may be recognized anatomically, apart from the clinical history. The essential feature is the diffuse extension of the process over the brain.

In regard to the origin of the process, the author inclined to the view that it had its starting point in the vessels rather than in the nervous tissues, and



that it is to be considered as a chronic inflammation of the neuroglia, terminating in atrophy.

In the discussion, Tezek, of Marburg, held that one of the most uniform peculiarities of paralytic dementia was the predominant affection of the frontal lobes, and that when the posterior parts of the brain were affected, it was a secondary trouble. He had never failed to find degeneration of the nerve-fibres of the frontal lobes, but had always found it localized in the anterior part of the brain. Dagonet, of Paris, called attention to the hyaloid degeneration described by him, and especially to the peculiar corpuscles found in the lymph-spaces.

Zacher, of Ahrweiler, had recently examined two cases of short duration. In the first, which proved fatal in less than four weeks, he found extensive destruction of the nerve-fibres, especially in the frontal region. In the second, which lasted two months, he found nothing abnormal. He believed that in a large proportion of cases the starting point of the disease was in the nervous system. In galloping paralysis, the process was mainly confined to the nervous system; in chronic cases it was predominantly an inflammatory process in the vascular system.—*Ibid.*

W. L. W.

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THE APPLICATION OF FREEZING METHODS TO THE EXAMINATION OF THE BRAIN. By W. BEVAN LEWIS, West Riding Asylum, Wakefield.

[For the benefit of such of the readers of Dr. Lewis's work on Mental Diseases as are interested in the histological method on which he principally depends, we reprint his article on the subject from the *Centralblatt für Nervenheilkunde*.]

The following is a brief account of the method of preparing fresh sections of the brain, in submitting which there is no intention of adding to the description given by the present writer several years ago: it is rather furnished in the hope that its perusal may lead to a fair trial of the freezing methods, which have scarcely received due attention from those histologists who make the brain their study.

In the method about to be described ether is employed as the freezing agent, and it may be stated at the outset that the expenditure thereof is small, about three-fourths of the amount used being condensed by means of a suitable contrivance in the freezing chamber of the microtome. For the description of a serviceable microtome the reader is referred to an article by the writer in *Brain*, Vol. I, p. 349, accompanying which is a sketch of an efficient kind of section-knife. Much importance is attached to the quality of this latter instrument; in the particular one advocated the blade measures five inches by one and one-fourth inches; both surfaces are concave, that uppermost in section-cutting the most so, in order that a sufficient quantity of water may be retained upon the blade.

To prepare this upper surface for use, ether in sufficient amount to cover it is employed: the blade is then immediately dipped into water. By repeating this procedure three or four times, the uniform covering of the surface by a thin layer of water is ensured. If there be too much water on the blade, (or

the under surface be wet,) the fluid runs on to the section, where it sets into an icy mass, which injures the knife-edge. If, on the other hand, the upper surface is insufficiently moistened, the sections cling to the blade and are torn.

Having prepared the knife, the cutting is commenced. The freezing chamber of the microtome is lowered until the cap is level with the under surface of the section-plate, and a piece of brain-substance, somewhat thicker than the plate, is laid upon the centre of the metal cap of the freezing chamber. A couple of drops of water placed at the edge of the tissue suffice, when frozen, to hold the latter firmly to its support. The ether spray is now caused to play upon the lower surface of the cap, beneath the tissue; and freezing will be facilitated by a current of cold air. Freeze the substance to be cut up to the level of the section-plate, and then, with a sweep of the knife, remove the unfrozen tissue above. From the surface thus obtained sections are taken, the knife being dipped, prior to the cutting of each section, into a vessel of water, and its under surface then dried by passing it rapidly across a towel placed over the knee. Float off the sections into another vessel.

*Subsequent treatment of Sections.*—Each film is taken up on a slide, and superfluous water allowed to drain off. The section is now floated up by a few drops of a solution of osmic acid, (O. 25%), a pipette being convenient for this purpose; the fluid is also carefully drawn over the section by penknife or brush. The osmic acid is permitted to act for a few seconds only; the tissue is then placed in pure water for [not?] over five or ten minutes, and gently washed.

Staining may now be proceeded with. Aniline blue-black is the agent employed, in the strength of 0.25 grm. (of the granular powder) to 100 cc. of distilled water. Each film, as it lies upon the slide, is covered with the staining fluid, which is allowed to act for about one hour. The excess is then poured off, and the film plunged into water and gently washed. It is once more received upon a slide, the fluid drained off, and the slide placed under cover on a slanting shelf, where the film dries spontaneously; when absolutely dry, it is mounted directly in benzole solution of balsam.

In conclusion, a few hints and remarks may not be amiss. In cutting the tissue, if the grey matter be placed nearest the operator, and so cut first, there is greater likelihood that a portion of pia mater will be obtained with the section; and this is of course desirable.

Osmic acid is used in order to fix the myeline of the nerve-fibres, which exudes in contact with water; when the acid is employed the film does not deteriorate in water, and can be manipulated without danger. (When, however, we wish to stain the axis-cylinders in the white matter of the convolution, the medullary sheath of Schwann—which opposes the admission of the aniline-dye—can be removed by prolonged immersion of the section in water.)

The best sections are obtained from the slowly-thawing tissue; hence it is unadvisable to freeze above the level of the section-plate.

The temperature of the room should be below 60 F.

The fresh, as compared with the chrome method, has this great advantage, no shrinking of the brain substance is produced. Hence, in sections prepared after the manner above described, we find the nerve-cells more crowded, with processes more numerous and distinct, than in corresponding sections from

hardened brain. In the former, also, the cells are not stunted, and are far less angular than in the latter.

AVERAGE DEPTH OF CORTEX.\*

	<i>Man.</i>	<i>Cat.</i>	<i>Calf.</i>	<i>Sheep.</i>
In hardened brain,†	2—2.5 mm.	1.5 mm.	1.2 mm.	1.55 mm.
In frozen brain,	4.836—5.7 mm.	2.6 mm.	2.04 mm.	2.6 mm.

W. L. W.

**PUERPERAL INSANITY WITH AMNESIA, ASTASIA, ABASIA, AND COMMUNICATED DELUSIONS.**—Case reported by Séglas and Sollier. The patient, a married woman, aged thirty-four, hysterical, and of bad family history, her father having committed suicide, became insane after the birth of her second child. The most striking symptoms in her case were a remarkable impairment of memory, out of proportion to the mental enfeeblement in other respects, and inability to stand or walk [astasia-abasia of Bloch], although when lying down, there was neither paralysis nor inco-ordination of movements. Sensibility was considerably impaired in the lower extremities, and there was some retraction of the muscles attached to the tendo-Achillis: electrical reactions normal. She was able to go on all fours, or to move the chair in which she sat along the floor with her feet. The authors are disposed to associate the motor symptoms with the loss of memory, and to believe that she had forgotten how to walk. This view is confirmed, in their opinion, by the fact that, although she had been a dressmaker, at the time of her admission she could not sew. When she attempted to do so she only made inco-ordinate movements. Considerable improvement in all these respects had been achieved by a course of training intended to cultivate her memory.

Her husband was an enthusiastic "spiritualist," and a believer in the transmigration of souls, and believed that his wife's sufferings were due to the fact that in a previous state of existence she had been an inquisitor, and that her present sufferings were the punishment of her sins at that time—a delusion which he had, to some extent, communicated to the patient.—*Arch. de Neurol.*, Nov., 1890.

W. L. W.

**PARALYSIS OF THE EXTERNAL POPLITEAL NERVE AS A COMPLICATION OF SCIATICA.**—Guinon and Parmentier give histories of eleven cases of sciatic trouble complicated by motor and sensory paralysis, either confined to or predominating in the region supplied by the external popliteal nerve. Six of the cases, compiled from other sources, were of traumatic [puerperal] origin. In the remaining five personal observations, no history of injury to the nerve could be obtained, and the authors have failed to find records of similar cases. They are unable to account for the fact that the external popliteal nerve is

\* Reckoned from periphery of convolution to lowest limit of spindle-cell formation, that is, deepest layer of nerve-cells. In sections from hardened brain in which the writer measured the cortex the figures corresponded closely with those given by Meynert.

† Meynert.

principally attacked except on the ground of a special liability of the extensor nerves to degeneration, as shown in the wrist drop of lead paralysis. The prognosis is not very favorable as to recovery.—*Arch. de Neurol.*, Sept., 1890.

W. L. W.

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PARALYSIS FROM CARBONIC OXIDE POISONING.—Boulloche, in a résumé of the literature of this subject, finds that this is not a very uncommon occurrence. In the majority of cases, the paralysis is of the peripheral type, characterized by anæsthesia or neuralgia, with or without motor palsy, atrophy or infiltration of muscles, and reaction of degeneration. As in other toxic paralysees, the extensor muscles suffer most. The affection is usually more severe in the upper than in the lower extremities. Degeneration of nerves has been anatomically demonstrated in two cases. Prognosis as to recovery is favorable.

In the cerebral form, meningeal hæmorrhage and softening, usually in the motor region, have been observed. The symptoms and prognosis are those of the same lesions from other causes.

Becker has reported disseminated sclerosis following carbonic oxide poisoning.

In a certain proportion of the reported cases the author is inclined to attribute the symptoms to hysteria, of which the poisoning was the exciting cause.—*Ibid.*

W. L. W.

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CASE OF HYSTERICAL ANÆSTHESIA FROM TRAUMATISM.—Reported by Sérieux. The patient, a robust girl, inmate of an asylum for the insane, who had never previously shown symptoms of hysteria, received a trifling wound in the back of the right hand from a hairpin in the hands of another patient. Shortly afterwards she was found to have hyperæsthesia of the immediate region of the injury, with anæsthesia of remainder of the dorsum of the hand, the palm, the whole little finger, and the dorsal surfaces of the remaining first phalanges. On the next day the little finger had regained its sensibility, but the anæsthesia involved the thumb, index and middle fingers, and extended up to the elbow. On the following day the anæsthesia had entirely disappeared, although the hand still felt weak. No other symptoms of hysteria were observed, either at the time or at a subsequent examination.—*Ibid.*

W. L. W.

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IDIOCY CONSECUTIVE TO APPLICATION OF FORCEPS.—Koch reports a case, with autopsy, in the *Neurolog. Centralblatt*, 1887. The patient presented a scar, three inches long, on the left parietal bone; he had convulsions during the first three years of life. Right hemiplegia, with contracture of arm and leg; speech almost unintelligible, but expressing his ideas conformably to his grade of intelligence, which was low. Occasional epileptic attacks, in one of which he died at the age of thirty. At the autopsy, evidence was found of old fracture of the left parietal bone, atrophy of the left hemisphere from chronic meningo-encephalitis, and nodules of sclerosis distributed through both hemispheres, including the corpora striata.

In a note, the reviewer, Bourneville, states that in his observations in the Bicêtre he had found evidence of injury from obstetrical operations in only a very small number of cases. Asphyxia at birth, on the other hand, from any cause, had, according to his observations, a very important influence on the production of idiocy.—*Ibid.*

W. L. W.

THE PHYSICAL SIGNS OF HALLUCINATIONS.—Ch. Féré, *Rev. de Médecine*, No. 9, 1890, (abstract in *Jour. des Connaiss. Méd.*,) holds that thought is always accompanied with movement, and that the study of these physical and visible signs should form the basis of all scientific, normal and morbid psychology. By registering these movements the alienist leaves the dominion of metaphysics, to which he has heretofore confined himself. Using the methods employed by physiologists in finding the sensory effect of cerebral excitations, he finds that hallucinations are accompanied with the same external physical phenomena as actual perception of a real object. He reports amongst others the following observation *à propos* to the hallucinations of *cœnesthesia*. An epileptic patient lifted every two seconds a weight of two kilogrammes. The lowering of the curves showed clearly fatigue, when all at once there occurred a series of very energetic contractions. During this period the depressed physiognomy of the patient brightened up suddenly. When he had reverted to his former appearance and the curves of the registering apparatus had again begun to show evidence of his fatigue, he stated that he had had a sudden feeling of being very well. The sensation therefore of amphoria had for its physical condition a veritable motor discharge, manifesting itself by an increase of energy of voluntary movements.

The employment of registering apparatus in the study of what is commonly known among alienists as "insanity of manner," may be an advance, but it hardly justifies the assertion that insanity specialists have confined themselves hitherto to the domain of metaphysics.

H. M. B.

TOXIC ACTIONS OF THE URINE OF EPILEPTICS.—M. Féré, at the session of the Société de Biologie, October 11th, 1890, (*Progrès Médical*, No. 42,) made a supplementary note to his former researches on the toxicity of the urine in epileptics. He finds that that passed immediately after the paroxysm is less toxic than that contained in the bladder immediately prior to the attack. In a case of epileptic excitement that lasted for three days, the urine was not very toxic, but more so than in the normal condition. M. Féré thinks that this poisonous quality of the urine is due to excessive exertion and is not the cause of the epileptic attacks. Rabbits which had been injected with this urine exhibit trophic disorders consisting in ulcerations and fall of the hair along the whole length of the vertebral column.

H. M. B.

THE ETIOLOGY OF JACKSONIAN EPILEPSY.—K. Yamagina *Virchow's Archiv.* Bd. CXIX, (abstract in *Jour. des Connaiss. Méd.* No. 42,) reports two cases of localized epilepsy in which at the autopsy he discovered distoma of the brain.



One of these was a shoemaker, aged twenty-six, who had been epileptic about four months. There were found in his brain a large number of tumors due to this entozoon, and in the brownish liquid of the cysts numerous eggs, that could be recognized as being those of the distoma of the lung. The second case was that of a Japanese who died in convulsions at the age of twenty-nine years; and in the cortex of whose brain were found verminous tumors and the eggs of the pulmonary distoma. Dr. Yamagina recalls the fact that Meschede, in 1869, published the case of an epileptic of six years' standing, at whose autopsy there were found eggs of the *Bothrucephalus* in the brain. H. M. B.

ELECTROTONUS.—R. Brugia, *Rivista Speriment. di Trenitria* XVI, III, concludes an article giving the results of an experimental study of electrotonus with the following:

(1.) Catelectrotonus as well as anelectrotonus, but the latter rather more than the former, produces a notable retardation of the velocity of nerve transmission. This result indicates a very conspicuous difference between the behavior of the nerve mentioned in relation with its surrounding tissues or isolated; in this latter case, according to experiments carried on by Novi, catelectrotonus, if only not too extreme in degree, accelerates the transmission of the excitation.

(2.) Increasing progressively the polarization, the time of reaction is increased in the same ratio; but while the anodic polarization up to a certain degree induces a complete hindrance to transmission, catelectrotonus may attain a very high degree of intensity before exhausting the conductability of the nerve.

(3.) With the cessation of catelectrotonus the retardation of the muscular action disappears almost immediately, with the cessation of the anelectrotonic condition, the nerve requires rather a lengthy time to regain its full power of transmission.

(4.) Increase of the stimulus while it remains almost without effect on the anelectrotonized nerve in the condition of catelectrotonus makes up to a certain extent for the difficulty of conduction.

As a means of diminishing the excitability of the nerve, the action of cold was utilized (prolonged ether atomization) with the following result:

(5.) The time of reaction being thus prolonged, the electrotonic effects follow as in the normal condition, but with the cessation of the catelectrotonic condition the velocity of the propagation of the excitation is lessened.

In nerves that show degeneration the following is observed:

(6.) In the first stage in which the galvanic and faradic excitability is only diminished the electrotonic retardation is less marked than in the normal condition.

(7.) In the stage in which only the galvanic muscular excitability remains, the direct stimulation of the muscle is characterized by extreme slowness of action, which in a little longer time reaches in degree the electrotonic condition.

H. M. B.

## BOOK REVIEWS.

*Life of Dorothea Lynde Dix.* By FRANCIS TIFFANY. Houghton, Mifflin & Co., Boston, 1890.

We have read with the liveliest interest from beginning to end the new and handsome volume lately published by the firm of Houghton, Mifflin & Co., Boston and New York, entitled *Life of Dorothea Lynde Dix*, by Francis Tiffany of Cambridge, Mass. The vignette is a fine portrait of Miss Dix at the age of forty-eight.

We have not the pleasure of knowing the author, but we judge that he took up his task *con amore*, from that "enthusiasm of humanity" which he must have imbibed from the illustrious subject of his biography. Under the difficulties he has had to encounter, from the lack of surviving relatives, and the well known reticence of this remarkable lady as to her own antecedents and history, many persons will be surprised at the quantity of material Mr. Tiffany has been able to secure for this work, and the completeness of the record which he has given of her life and actual labors and results of her extraordinary career. For it was a career of more than forty years devoted to the cause of philanthropic reform, especially in the department of insanity, that places her on a full level with such proverbial names as John Howard and Elizabeth Fry, or the St. Catherines, St. Elizabeths, St. Theresas and other canonized women of the middle ages. Notwithstanding the appearance of rather inflated and redundant language on the part of her biographer which would have been repulsive to her own severe taste and strong sense, yet the almost inexhaustible details of this protracted life of four score and five years compel us on the whole to acquit the author of too extravagant panegyric, though perhaps hardly as free from our American provincialism, as the very cosmopolitan character and spirit of Miss Dix might have led us to expect. There is considerable profuseness of Scripture quotation, more or less apposite, and biblical expressions such as "the hiding of power" occasionally repeated, which the writer seems to invest with a peculiar sense of his own. But even Prof. Huxley is fond of Scripture quotations, and although he is a determined enemy of what he calls "Bibliolatry," he seems to feel that the English Bible is the backbone of the English language, and that the surest way to a nervous and forcible style is through a familiarity (in both senses of the word) with its clear cut imagery and its strong Saxon phraseology.

Here it may be proper to remark that those who knew Miss Dix only in her public life, as it may be called, that is, in connection with her multifarious projects and labors in charitable reforms, will to their surprise perhaps, find revealed in this volume, a very profound and pervasive religious element in her character, which seems to have been both the motive power and sustaining tonic of a career that would have early broken down the constitution, mental as well as physical, of any ordinary woman. There is indeed no other way to account for the elasticity that carried her through so many attacks of illness

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It might be an interesting question psychologically, which we shall do no more than suggest here, how far a mental attitude produced by a religious motive of some kind or other has been, as a matter of history at least, essential to the persevering and successful prosecution of any great movement or organization for the reform and amelioration of mankind. As a matter of fact "hope in this life only" does not seem to prompt human energy to any conspicuous examples of self-sacrifice for the betterment either of present conditions, or those of posterity. Yet there is a very observable reticence in what utterances we have here of Miss Dix, herself, as to her Christian principles and motives, showing as we consider it, admirable reserve and dignity as to such subjects, in remarkable contrast with the emotional effusiveness of her biographer. As if she would beforehand deprecate a too spiritualized description of herself, she once finely remarked that it was "not so much *love of her species* that moved her, as compassion for their sufferings." There certainly is a spirit both of humility and of nobility in such an observation as that, which betokens a very high order of character. The same trait comes out under the repeated solicitations of friends to write her autobiography or at least to furnish the materials for it, which she declined, as necessarily conveying some reflection upon others who were more or less involved in the evils which it had been her mission to remedy.

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The fact that her childhood was almost a blank, and that she was from an early period thrown as it were upon her own resources, with other members of her family to provide for, doubtless did much to develop that independence and decision of character which was so conspicuous a trait of her whole life, amounting as some thought, to a somewhat imperious and dictatorial habit in the prosecution of her plans which were often on a scale too extensive to be readily apprehended by those around her as either practical or possible. As one reads again this portion of her life, and finds it her highest ambition to become the instructress of a girl's school, one can but smile to remember how this conscientious, delicate and somewhat fastidious young lady came to be an instructress of the whole civilized world in the matter of public charities, and actually had an "alcove" set apart for her use in the halls of the National Congress, to which she was allowed to summon the legislators singly or in groups to enlighten them as to her plans and their duties in regard to the relief of human misery. Not a *soupcion* of personal pride or self-exaltation on this account appeared in her conduct. The relief of suffering was the ruling passion of her life, and that accomplished, in any particular case, she at once subsided into the role of a plain, modest, but cultured woman ready for any

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of the ordinary functions of "woman's sphere," until again summoned by the call of duty to the public exercise of her peculiar gifts. For certainly it was her "peculiar gifts" that thoroughly justified her public life and mission; and yet even this suggestion of exacting imperiousness that occasionally showed itself, was not outside the poet's ideal of a

"Perfect woman, nobly planned  
To warn, to comfort, and command."

It may be a fanciful application of the doctrine of heredity, but the shiftless and migratory character of her surroundings in childhood may have developed in her that cosmopolitan spirit which seemed to find itself equally at home in any part of the world, and wherever she might be, equally to rally to her side all who could appreciate "whatever is noble in purpose or sympathetic in action." She certainly rose far above those narrow and petty influences which were but too rife in the moral atmosphere of New England at that time, and the acquaintance which as a successful teacher she formed with Dr. Channing served to both deepen and refine the serious element in her nature, and to stimulate in her the "enthusiasm of humanity" as something far superior to the lower material objects of men's ordinary callings. We regard as the turning point in her life that involuntary seclusion for eighteen months as an invalid in an English family near Liverpool, to which she was sent on a short visit, with letters of introduction from Dr. Channing, for the purpose of recruiting her strength, worn out by the exacting labors of a teacher's profession when conscientiously performed. It was here she fully learned the promise and the potency of unrecompensed benevolence amid surroundings of natural refinement and spontaneous unaffected friendship. We think it will not be difficult to understand her biographer when he speaks of her return:

"In England she had tasted the sweets of a new and fascinating experience, she had basked in a sunny atmosphere of sympathy and love and had shared a life far fuller of charm and intellectual stimulus than any to which she had been previously accustomed. New England on her return, seemed to her raw, provincial, hard and ugly, as indeed in those earlier days it was. There seemed no place for any one who was not fitted into some regular groove of work. Work was the one and only refuge, and what work was there for her?"—Page 52.

Here follow a couple of chapters in which is well told the history of the treatment of insanity at that date, (circa 1840), with the reforms begun by Pinel, Tuke and Conolly, the writer with pardonable pride, claiming for Massachusetts the leadership in appropriating the views and discoveries of the Old World. But Miss Dix was not long in finding a providential answer to the question which concludes the above extract. In a chance conversation her attention was fixed by a passing statement as to the wretched condition of certain jails and receptacles for lunatics in the vicinity. Her mission seemed to dawn upon her at once. Her "descent into Inferno," as her biographer expresses it, was on March 28, 1841, when she began her personal investigations, of which she made full and accurate notes, in the jail of East Cambridge. It seems incredible now, the fierce anger and opposition which her

exposures kindled among officials and demagogues who are forever representing "tax-payers." No one at this day can form any conception of the innumerable hindrances and disagreeable experiences encountered by any one, especially a woman, who sought to remedy, necessarily at a great expense to the State, the shocking condition of things which was then the rule rather than the exception, in the penal and charitable institutions of the States. Her first step was to enlist the attention of prominent physicians and clergymen, and statesmen like Mr. Charles Sumner, and her next was to lay before the Legislature an elaborate memorial giving facts and describing details just as she had seen them with her own eyes. *Ab uno disce omnes.* Such was the process she carried on from State to State, until in more than twenty States of the Union, after more than thirty years of such absorbing labors, broken by intervals of sickness and exhaustion, she had the satisfaction of having created an entirely new estimate of public opinion in regard to this subject, and of witnessing in all those States the building of new institutions and the remodeling of old ones more and more in accordance with the demands of Christian humanity as well as of advanced science. In that home of her declining years which the Legislature of New Jersey furnished her at the Institution at Trenton, in recognition of her public services as its real author and founder, it must have been affecting to hear her, in extreme old age, with that recurring touch of nature which makes the whole world kin, like a true woman, speak of that and similar institutions in other States, as "her children," which the lone childless woman well knew would be a priceless blessing to thousands of children yet unborn.

Of her, too, it might be said in some not unfitting sense,

"An office, there to rear, to teach,  
Becoming, as is meet and fit,  
A link among the days, to knit  
The generations each to each."

Miss Dix's work, to express it in a nutshell, brought about the revolution in our American ideas of the proper ratio of taxation for the care of the helpless and dependent classes, which measures the practical difference between civilization and barbarism. Though we may be disposed to repudiate the custom of former ages of appropriating a tithe for the service of God and man, or of God *for* man, it is not at all unlikely that the growing Providential necessities of Society, will continue, in one way or another, to exact the full tale of this tribute. In addition to her labors in the various States of the Union, which were generally crowned with the most gratifying success, Miss Dix was emboldened to memorialize the National Congress in 1848, for the grant of five million acres of land, as an endowment for the support of the indigent insane of the whole country, which amount, at a subsequent session, she enlarged to 12,225,000 acres, to take in also the indigent blind and deaf mutes. Several very interesting chapters are devoted to the history of her persistent efforts and operations at the National Capital, through successive sessions, until 1854, to secure the passage of this bill. We have already alluded to the courtesy of Congress in furnishing her facilities for prosecuting this mission. It would have hardly seemed strange, if any woman whatever, after such a series of successes, due partly of course to that American chivalry which always defers,

as far as possible, to the wishes of a lady—wishes more potent, as Dr. Francis Lieber often encouragingly reminded her, than any man's arguments, should have contracted an almost overweening consciousness of her own powers of persuasion, and the very effective influences of her own attractive though dignified personality, insomuch that some thought they detected signs of imperiousness and dictation. Doubtless the business of "lobbying" has been since undertaken many times by members of the fairsex with a similar confidence in such advantages, but with an utter absence of such noble and unselfish motives as animated Miss Dix, and in her private life and ministrations to suffering humanity, she fully showed that a *hauteur* which might be necessary with rough men and politicians, was entirely foreign to her real nature. More recent examples have shown the possibility of female sentiment influencing legislation, sometimes with too little prevision of the ultimate practical consequences. Anyhow, Miss Dix at last succeeded in carrying "her bill," as she naturally called it, through both houses, at one session, after various alternations of success and failure in each house separately. One can but sympathize with the consternation of disappointment that almost crushed her, when it was met by a *veto* from the President at that time, Franklin Pierce.

Mr. Tiffany devotes rather more pages than are necessary to the denunciation of this official action, as the "mere arbitrary act of an individual," and makes liberal quotations from the criticisms of its opponents in Congress. Literature may be excused if it declines to fall in with that kind of partisan spirit which recognizes one Chief Magistrate as the "Government," and another as only an "arbitrary individual." But aside from the fact that it would be questionable policy to furnish any State with an excuse for shirking its own individual duty to provide for its helpless and dependent class, it may be said for the President in the discharge of his constitutional functions, that there had been a great hue and cry over the "waste of the public domain," while he appears to have had some constitutional scruples as to whether, even if such appropriations were allowable for purposes of material improvement and progress, it was legitimate to devote them to the support of purely *elemosynary* institutions that belonged to the several States. We do not know that the question has ever been judicially determined, but we are not aware that any similar bill has ever since been passed by Congress, although it might have been introduced under more favorable auspices. Of course, all these difficulties were anticipated by the debates, but the whole history shows the enormous power that can be exercised by a present personal influence, backed by unquestioned sincerity and unselfishness. Indeed, it was such irresistible power that secured the present site of the Government Hospital for the Insane at Washington, at a family sacrifice which it really seems to us very questionable whether *anyone* had a right to ask, much less urge, especially upon an emotional and sensitively conscientious person, so long as other provision could have been made.

In September, 1854, sorely needing refreshment and renewal of strength after her late defeat, she set sail for England. The year previous she had "inaugurated" two new asylums in Nova Scotia and Newfoundland, and while at the Island, had her attention called to the numerous shipwrecks at

Sable Island and the perils and sufferings of sailors. With the aid of friends in Boston and New York she caused the place to be supplied with a superior style of life-boats and other appliances of a life-saving service, for which, in 1855, she received the gold medal of the Mariners' Royal Benevolent Society. The whole story must be read to be appreciated. The same may be said of her subsequent labors in Ireland, Scotland and England, where though the hospitals had been greatly improved, very inadequate provision had as yet been made for the *indigent* insane. The same labor of personal investigation she had prosecuted in the States, she repeated here, until she got the ear of prominent officials and members of Parliament, meeting everywhere the same triumphs of her personal magnetism, leading to "Royal Commissions" and other measures for the reform of Lunacy Laws. Even an abridgment of this narrative, it would be useless to undertake here. It is enough to say that nearly all her efforts met with unqualified success, notwithstanding, in addition to the usual hindrances she was regarded by some as a fanatical "American invader." Much of this account will be new to those who are tolerably familiar with her work in the United States.

After a remarkable work in the Channel Islands also, Miss Dix went to the Continent, to France, Italy, Greece, and even as far as Constantinople, where she found the Turks better provided, as to insane asylums, than the Italians. Her negotiations and audiences with the Pope are among the most remarkable proofs of her extraordinary capacity and common sense, as is also her ability in enlisting the aid of Cardinal Antonelli, through whom she was chiefly enabled to accomplish her objects.

After her return home, in 1856, her time was taken up until the Civil War, chiefly with visits to the various institutions she had been the means of founding, and answering requests for aid and counsel in their management, and securing additional legislative action in some of the Southern States. The war presented her with opportunities for humane work very different from that to which she had been accustomed, because involving so much of disorder and irregularity and remissness very repugnant to her ideas. Mr. Tiffany does very reasonable and generous justice to her services in the capacity of "Superintendent of Women Nurses," wherein with the devotion of a Florence Nightingale, she perhaps did not display the same degree of tact or allowance for human nature in the "spectacles of incompetence and callous indifference she was daily doomed to witness" in those sorry times. As her biographer says:

"The lone worker could not change her nature. She tried to do everything herself, and the fact before long became an impossibility. At length she came to recognize this, again and again exclaiming in her distress, 'This is not the work I would have my life judged by.' She however procured the erection of a monument to the soldiers buried in the National Cemetery." The inscription upon it is characteristic: "In Memory of Union Soldiers who Died to maintain the Laws." No jurist could have better expressed the sober truth.

After the war she gave her attention for a time to institutions in the South, sadly crippled as they were thereby, visiting also many Northern Hospitals as a sort of "lunacy commission" to perfect the service, until her final retirement in the weakness of old age to her final home at Trenton.

Her whole career is fairly entitled to the epithet "marvelous," and the specialty owes Mr. Tiffany a debt of gratitude for rescuing and preserving in permanent form the details of such a life which must ever be, to all friends of afflicted humanity, a refreshment and a stimulus to good works.

In her later years, Miss Dix had to listen to many complaints against the management of—we had almost said *her* hospitals for the insane. She had the experience which enabled her to judge how often they were as baseless as the delusions these institutions were intended to cure. It requires greater good sense to know when things are well carried on, than to know when things are out of order, and Miss Dix possessed this good sense. As Mr. Tiffany truly says:

"From the sheer necessity of the case the feeling of a superintendent and of his assistant physicians must often be that of men who are sleeping over a powder magazine. Outside is a jealous public swift to conceive dire suspicions. Inside is a mass of disorganized human nature, the prey of wild hallucinations and shapes of degraded passion—cunning, deceitful, and unable to distinguish between fact and fancy. Pass through the wards, and forthwith will rational-seeming men and attractive women stop you, and with streaming eyes begin to tell you such stories of the brutality to which they have been subjected by the violence or sensuality of the superintendent—a man, perhaps, of the elevation of character and consecration of life of a Bell, Woodward, or Kirkbride, as would for a moment, stagger the faith of Abraham, so quietly, logically, and movingly are the stories told." Page 312.

In these days of hasty opinions and sudden excitability there are many people who fancy that all change is "progress" and all progress reform. They can never know when even their own ideas will last long enough to furnish a workable system. The chief value of acquired experience therefore has come to consist in resisting the temptation to *doctrinaire* theories and chimerical experiments. This, too, although it be a maxim that the best government in the world may have tendencies to corruption through the weakness or depravity of human nature, and, therefore, that only "eternal vigilance" is the price of security, that is, of order and security, under the sanctions of Liberty and Law.

W. T. G.

*The Early Stage of General Paralysis.*—By CHARLES F. FOLSOM, M. D., Visiting Physician, Boston City Hospital. Reprinted from the *Transactions of the Association of American Physicians*, September, 1889.

This pamphlet is mostly occupied with the histories of seventeen cases in which, at the time the author was consulted, the usual symptoms, according to the books, of the early stages of the disease, as extravagant delusions, muscular inco-ordination and disturbances of speech were imperceptible or but slightly marked, although the histories showed the existence of more or less mental deterioration for considerable periods—often from three to five years—previously, and the subsequent course of the disease justified the diagnosis of general paralysis.

Dr. Folsom is of the opinion that it is possible, in many cases, to make a diagnosis of this disease at a much earlier stage than is generally done. The symptoms on which he lays most stress are those of a general slight failure in



the higher capacities of the individual, combined with indifference to the results of his incapacity, even when he is, to some extent, aware of it. Such a change is, naturally, more obvious in highly cultivated persons, and may pass entirely unnoticed in routine employments. A change in disposition, in the direction of unnatural impatience and irritability is also exemplified in a number of his cases. The difficulty in the practical application of these facts is, that in most cases, neither the patient nor his friends think of applying for medical advice during this stage of the disease.

In respect to prognosis, he expresses the hope that with an earlier recognition of the disease, the prospects of the patients may be improved. It is more favorable with advancing years, so that early symptoms, of absolutely bad prognosis in young men are not incompatible, in men of sixty, with a fair degree of recovery.

As to the treatment, he seems slightly inconsistent, as, in the body of the paper, while discussing the relations of syphilis to general paralysis, which he finds too frequently associated for mere coincidence, he says that "the usual remedies for syphilis, as I read the evidence, are not of the slightest benefit." In some remarks appended at the end of the paper, on the other hand, he says, "I have seen quite a large number of cases benefited by large doses of iodide of potassium. They have, however, been of the following type," and goes on to give an account of a case with a syphilitic history. "Entire mental rest in a quiet place, in a sedative climate, with simple food, abundance of sleep, and moderate exercise," are the means which he most recommends, and from which he hopes for better results than have yet been achieved if they can be applied early and long enough.

*Disorders of Sleep: Insomnia.* By CHARLES F. FOLSOM, M. D., Fellow of the American Academy of Arts and Sciences; Visiting Physician Boston City Hospital; formerly Assistant Professor of Mental Diseases, Harvard Medical School; Honorary Member of the Association of Medical Superintendents of American Institutions for the Insane. Reprinted from the Transactions of the Association of American Physicians, May, 1890.

This excellent paper is already so much condensed that further abstraction must be mainly by way of omission of the author's points. He classifies the causes of insomnia as follows: 1. Habit; 2. Disturbing sensations; 3. Excessive intellectual or emotional activity; 4. Reflex, especially from indigestion; 5. Traumatic, either physical or psychical, or both combined; 6. Toxic, either from morbid products of the body or from stimulants, narcotics, and other poisons; 7. Exhaustion from wasting diseases and enfeebling conditions; 8. Of vascular origin, from impediments to the circulation; 9. Vasomotor; 10. Neurasthenia; 11. Neuropathic temperament; 12. Insanity. Apart from organic disease, the organ to the functions of which he attaches most importance in this regard is the stomach. Treatment, of course, must vary with the cause. More importance is attached to hygienic measures than to hypnotics, which are, however, indispensable in many cases. Among the various drugs recommended for this purpose, he gives the preference to alcohol, opium, chloral hydrate, paraldehyde, amyl hydrate, urethan, sulphonal and the bromides, according to the indications of the case. Phenacetin is of great value in insomnia from overwork, of nervous irritation, in febrile

states, from headache or neuralgia. Hyoscin and hyoseyamin have a limited range of usefulness; acetal, ural, hypnone and somnal are of little value. The whole article is full of valuable suggestions for the management of this very troublesome symptom.

*Report on the Examination of One Hundred Brains of Feeble-Minded Children.* By A. W. WILMARTH, M. D., Assistant Superintendent of the Pennsylvania Institution for Feeble-Minded Children. Reprinted from the *Alienist and Neurologist*, October, 1890.

The above report comprehends the results of the examination of 101 brains, classified as follows:

"Sclerosis with atrophy, 12; *sclérose tubéreuse*, 6; diffuse sclerotic change, 7; degenerative changes in vessels, ganglionic cells or medullary substance, not constituting true sclerosis, 15; hydrocephalic, 5; general cerebral atrophy, 2; non-development in various forms, 16; infantile hæmorrhage, 1; extensive adhesion of membranes from old meningitis, 3; angiomatous condition of cerebral vessels (with degenerative changes), 1; glioma (with sclerosis), 1; porencephalous (with non-development), 1. Of thirty-one cases, where actual disease or imperfect development of the brain proper was not demonstrated, there was hypertrophy of the skull in 6; acute softening (recent), 2; demimicrocephalic, 2. The brain was above usual weight, but the convolutions large and very simple in their arrangement in 2."

That the majority of the cases of idiocy recorded by Dr. Wilmarth depend upon pathological processes in the brain and not upon "arrested development," is the valuable lesson taught by his report. His investigations show that children whose mental imbecility follows pathological degeneration, such as the various forms of sclerosis, atrophy, or sclerosis and atrophy combined, are susceptible of only limited improvement, while others, who have been subject early in life to some severe cerebral disturbance are liable to develop epilepsy, and do not respond to training. On the other hand, children who inherit "inactive brain from parents below the usual average of intelligence, without history of infantile disease or epilepsy," give favorable promise of "general and permanent improvement," when submitted to the various systems of special training," provided in schools for this purpose. The moral points toward greater caution in the diagnosis of "arrested development," in order that parents may not be misled into expectation of improvement in children whose condition will not admit of it.

As is to be expected the principles of cerebral localization are abundantly illustrated. Especially instructive are the cases of two macrobiotic idiots in whose brains there was extensive destruction of the gray matter of the convexity with normal development of the base. In five cases of "Mongolian idiocy," the most noticeable anomaly was diminution in size of the pons and medulla—a suggestive fact, taken in connection with the peculiar trophic conditions and short lives of these patients.

The characteristic features of Dr. Wilmarth's report are absence of theory and freedom from verbiage, which make impossible a satisfactory selection of facts for quotation, and at the same time assure the report a permanent place in the literature of pathology.

J. M. M.

*Lectures on Some Points in the Treatment and Management of Neuroses.*

By E. C. SEGUIN, M. D., Providence, R. I., Corresponding Member of the Société De Biologie of Paris, and of the Verein Für Innere Medizin of Berlin, etc. Reprinted from *The New York Medical Journal* for April 5, 26, May 17, 31, 1890.

Seldom does a communication of such value as this come to us in so unpretentious a garb. We may hope, however, that these lectures, either by themselves or incorporated in a completer work, will soon reappear in more permanent and generally available form than at present. They embody the practical results of a lifetime of study on the part of one of the most brilliant and scientific of American neurologists, in the line of actual treatment of several of the most intractable neuroses,—namely, epilepsy, chorea, migraine, trigeminal neuralgia, and Basedow's disease.

The results chronicled are highly satisfactory, when the well known obstinacy of these conditions is considered. A definite and tangible system of treatment is outlined in each case. But let no one expect to find here anything absolutely new or startling. Dr. Seguin is far too great a scientist to grasp at chimerical panaceas. Indeed, one of the strong points of these lectures is the throwing of a bomb into the camp of those ophthalmological enthusiasts who, a few years since, thought to revolutionize neurology by telling us that the essential trouble in various neuroses lay not in the organism as a whole, nor yet in the nervous system, but in a single set of tiny ocular muscles. These enthusiasts are handled in these lectures with reserve and dignity, but with peculiarly satisfactory efficiency. Throughout the history of medical science, enthusiasts have been forever coming forward, bearing aloft a little twiglet from the tree of pathological truth, and parading it in the firm and honest, but woefully misguided, belief that it represented the root-stock instead of a branchlet. That our friends of the ophthalmoscope have grasped a part-truth, no one questions, and the present author hastens to do them full justice; but he goes on to make it plain that they bring a part only and not the entirety, emphasizing the all-important truth that each seemingly simple neurosis is or may be the resultant of a long series of differentiated causes, one or another of which may be emphasized in any given case, but all of which must be taken into account by any one who attempts to formulate general laws of etiology or of treatment.

It would be an injustice to the author to attempt here to epitomize the treatment specifically outlined, as it is already given synoptically in the work before us. A word may be said, however, about the dietetic suggestions contained in the second lecture of the series. In general, these may be granted to be excellent, but as we glanced at certain of the specific recommendations we were reminded of the comment of a pessimistic friend of astronomical proclivities who once remarked in our hearing that he considered the dietetic tables of physicians of little value unless there accompanied them a parallel table showing the articles of diet that are especially agreeable and those that are distasteful to the personal palate of the individual making out the table. Such a correction table, he maintained, introducing the "personal equation," might here, as in sidereal observations, serve to harmonize the results of different observers, and to enable unprejudiced but highly interested patients to draw conclusions of much value to themselves. And in the present case, it

has seemed to us that some of the suggestions might contain rather too much of this personal element to be of great value in formulating general rules. And this conviction was emphasized when, following the assurance that this diet "will agree with nearly every one" we found the naive but highly suggestive statement, "I live mainly so myself." After all, on second thought, it seems that this statement really amounts to a correction table such as that suggested; so perhaps this list is as perfect as individual judgment could be expected to make it. And beyond peradventure, let it be repeated, the general suggestions here outlined as to the diet of neurasthenic patients are unequivocally excellent.

As a whole, this little pamphlet is satisfactory far beyond most larger works on the subject. Every general practitioner of medicine should at once read it, and we venture to assume that even specialists may peruse it with profit.

H. S. W.

## LETTER FROM NEW SOUTH WALES.

### INSANITY IN AUSTRALASIA.

A little more than a hundred years ago—we celebrated our centenary in 1887—the first accredited representative of the British Crown landed at the now historical Botany Bay, charged with the duty of founding a colony to be named New South Wales, which name still obtains for the oldest and most populous of the Australasian Colonies. With him came the first colonists, almost all of whom were sentenced to penal servitude for life, at such a distance from the scene of their crime as to effectually prevent their return to England. As is not uncommon many of the convicts were probably only partly responsible for their acts, but at that period no special provision was made, or even thought of, for people who were criminals first, whether or no their mental condition influenced their acts. Again, their circumstances in life were hard—rigorous military discipline, often insufficient food and clothing, and treatment generally which would now be considered inhumane. Apart from these the early free colonists had much to endure. Then later on the discovery of gold, with its attendant excitement, led to the emigration of large numbers from other countries, many of whom had failed in life or were ne'er-do-wells at home. Again, many found the conditions of life very different from what they had been accustomed to; some became nostalgic, and many led solitary lives in the dreary “bush,” employed in shepherdin<sup>g</sup> and “prospectin<sup>g</sup>.” All these various conditions tended to the production of a considerable amount of insanity and no suitable provision was made for care or treatment, in fact the mentally deranged and the criminal were placed together, the prison being their mutual house of detention. After the colony of New South Wales had been founded some fifty years, a building designed for the reception of the insane was founded called Tarban Creek (now Gladesville), on the Paramatta river, six miles from the capital, Sydney. This still exists though much improved, enlarged and modernized. The Royal Engineers were responsible for the original design to accommodate less than a hundred patients; the buildings on the same site now serving for more than seven hundred patients.

Originally all that was known of Australia came under the title



of New South Wales, but the distances were so vast, and the centres of population so scattered, that various committees sought self-government, and it was thus that Victoria first and Queensland later, separated from the mother colony. When the newly defined colonies had made the necessary provision, all patients known to have previously come from within their boundaries were transferred from New South Wales to their care so soon as the necessary legal enactments permitted. The asylums at New Norfolk, in Tasmania, (originally called Van Diemen's Land,) Yarra Bend, in Victoria, and one in South Australia, were the first special institutions for the insane in the respective colonies. That at New Norfolk superseded the ordinary convict prison some years after the founding of the colony of Tasmania, whereas Victoria and South Australia made special provision in 1851 and 1836, respectively, the year in which each colony was founded. Later, in 1859, when Queensland separated from New South Wales, provision was made at Goodna, on the Brisbane river, some ten miles from Brisbane, the capital of the colony. The remaining colony, Western Australia, remained a Crown colony, *i. e.*, was without responsible government till the present year (1890), and the majority of the insane being of the convict class, the institutions founded as prisons have been modified and altered to a comparatively small extent for their reception.

In the early days of these colonies the institutions set apart or built specially for the insane followed no plans which we now recognize as suitable; no special type of architecture was thought necessary, and any experience gained from older countries as to what was best suited for the mentally afflicted, had no influence in the designs. When it is remembered that most of the hospitals were built piecemeal, additions being made as required for the ever increasing number of the insane, it is not difficult to understand that the various designs could hardly effect a congruous whole. Within the last thirty-five years, however, the provision in the colonies generally has been, in the main, in keeping with modern ideas as to suitability. Victoria built a large hospital at Kew, a suburb of Melbourne, and on the opposite bank of the Yarra river, where the original and still existing Yarra Bend Asylum stands, and about the same time hospitals on the Kew model were founded at Ararat and Beechworth, in the northwest and northeast of Victoria, respectively. South Australia was not behind in the erection of a suitable hospital at Parkside, now

actually in the city of Adelaide, owing to the growth of the capital. Queen-land, to meet increasing requirements, and to lessen overcrowding in its one asylum at Goodna, has but recently completed a wooden hospital at Toowoomba, one of the colony's prosperous and most healthy towns, and lastly New South Wales, at a cost of more than \$300,000, has built a hospital at Callan Park, three miles from Sydney, on one of the many charming estuaries of Sydney Harbour. Callan Park embodies all that is modern and desirable in hospital construction, and is practically the metropolitan hospital of New South Wales. New Zealand has so much in common with the Australasian colonies (including Tasmania), by virtue of its proximity, form of government, white population and social conditions, that it is frequently associated with Australia, accordingly a few facts concerning its position with respect to insanity will be found embodied in this sketch.

Although Australia or rather the original part of it known then as New South Wales has been founded a little more than a hundred years, the entire population of the island continent, is in comparison with many equal areas, small. In round numbers it was estimated, at the close of 1889, at 3,100,000, with 8,900 persons under registration as insane, or about one in three hundred and fifty-four. The accompanying return sets forth succinctly the position of the various colonies.

1st. The date of their foundation.

2d. Their population at the end of 1889.

3d. The number of insane under registration at that date.

4th. The proportion of the insane to the population.

Colony.	Date of Founda- tion.	Population, 31 Dec., 1889.	Number of Insane 31 Dec., 1889.	Proportion of Insane to Population.
New South Wales, ..	1788	1,122,200	2,974	1 in 377 or 2.65 p. 1,000
Tasmania, .....	1804	146,149	358	1 in 408 or 2.45 p. 1,000
Western Australia, ..	1829	43,000	132	1 in 326 or 3.07 p. 1,000
South Australia, ....	1836	333,033	790	1 in 418 or 2.37 p. 1,000
Victoria, .....	1851	1,118,077	3,631	1 in 308 or 3.24 p. 1,000
Queensland, .....	1859	397,061	993	1 in 399 or 2.50 p. 1,000
New Zealand, .....	1840	662,030	1,761	1 in 376 or 2.66 p. 1,000

The above figures include the native races, but as the aborigines have been extinct in Tasmania for some years they play no part in that colony's statistics. Their numbers are fast diminishing in Australia, but at no time have they furnished an undue number of

insane. In New Zealand the Maories, a much higher race physically and intellectually than the Australian aborigines, are still numerous. They do not appear to have any greater tendency to insanity than the white population.

The recovery rate in the institutions for the insane in Australia, for the ten years, 1878-1887, was forty-two per cent, this proportion including idiots, who are not for the most part included in the statistics of English asylums, and whose inclusion affects detrimentally the recovery rate. In addition to the forty-two per cent of recoveries nearly seven per cent were discharged as "relieved."

During the same decade the mortality was a little over seven per cent, contrasting very favorably with the rate for English asylums, whose statistics show at least two and one-half per cent higher. The climate of Australia, as a whole, even though it extends through  $28\frac{1}{2}$  degrees of latitude, is warmer than temperate, and unusually equable, with much sunshine and little prolonged rainy weather. Pneumonia, phthisis, and chest affections generally, which figure so largely in the statistics of colder climates, have but little incidence here. It is found that in the colonies (with one exception, viz.: South Australia), the warmer and more equable the climate the lower the mortality rate.

It may be interesting to compare the various nationalities under registration in institutions for the insane throughout the colonies, remembering that they vary widely, both as regards individual asylums and colonies. The numbers approximately are as follows:

Irish, 26%.	Australasian, 24%.	English, 23%.
Scotch, 6%.	German, 2%.	Chinese, 2%.

All the other nationalities furnish about one per cent each, almost every European nationality being represented. All English-speaking peoples, apart from those enumerated and aboriginies, South Sea Islanders, West India Negros, Malays and natives of British India, are included. As one would anticipate, the older-settled colonies, such as New South Wales and Tasmania, show a larger proportion of the Australasian nationality than the others. Tasmania having nearly three times as many of Australasian birth as Queensland. No endeavour has so far been made to elucidate exhaustively the tendency to insanity of the Australasian born; the only attempt in this direction applies to one hospital for the insane in New South Wales, where it was found that for the ten years ending 1888, the following comparisons obtained:

1 Irish in every	93	of the population was insane.
1 English in every	135	of the population was insane.
1 Scotch in every	155	of the population was insane.
1 Chinese in every	188	of the population was insane.
1 Australasian in every	579	of the population was insane.

But it must be borne in mind that a large proportion of the population of native born Australasians are still of an age to which insanity is not incidental in an average ratio, and that the proportion of insane is certain to show increasing numbers, *pari passu*, with the increase of the adult Australasian population. But apart from this, persons of this nationality would appear to be comparative strangers to the baneful conditions, epilepsy and general paralysis of the insane; the immunity from the latter being specially well marked, and never reaching a higher percentage than three and one-half per cent, or about two and one-half times less common than the statistics of English asylums show. This three and one-half per cent includes all nationalities under certificate.

The Lunacy Laws of all the Colonies are based upon those of England, with special provisions to meet altered conditions; such as scattered and distant population and limited number of legally qualified medical men. A feature of the lunacy statutes in New South Wales and Queensland is a provision for what are fitly termed "Reception Houses," to which almost all persons becoming insane are sent in the first instance, and after a longer or shorter stay—usually not extending beyond two or three weeks—are either discharged or sent on to the hospitals. These institutions act as a filter for cases of ephemeral and acute alcoholic insanity, as well as other of the transitory forms, and by preventing their being sent on to hospital spare the patient the pain, and in some cases the stigma, which unhappily attaches to having been certified, registered and classed with the insane in hospitals for this class. The "reception house" in Sydney was the first of its kind, and has now been at work for twenty-two years, with an excellent record. The reception houses in Queensland are established on the same lines and intended for the same purpose as the one in New South Wales, and are well-conducted and useful institutions. In lieu of reception houses Victoria has, in several districts, lunacy wards attached to public hospitals, in which cases of insanity are treated in the early stages.

In all the Australian colonies and in New Zealand the insane of the indigent class are wards of the State, and are supported in

institutions at the expense of the State; are in all respects under State control, and are officered by members of the Civil Service. In none of the Colonies are the insane left to the charge of local, county or municipal authorities.

The public institutions for the insane in Australia and New Zealand are generally called asylums, but in New South Wales, Victoria and South Australia the official designation is the preferable term—hospital.

Private retreats for the insane are, as a rule, not looked upon with much favor by the local legislatures, but there is a well-conducted institution of this class in New South Wales and another in New Zealand. These, the only institutions of their kind, are under the inspection of the government authorities in the respective colonies, though controlled by the physicians who are at the same time medical superintendents or proprietors.

All the institutions, both public and private, have at their head legally qualified medical men, designated medical superintendents, and in the larger hospitals there are in addition one or more legally qualified assistant medical officers, so designated. In respect to medical officers the services are by comparison with American hospitals, somewhat undermanned, a thousand patients in some instances having but two medical officers, in addition to the medical superintendent. Recently, however, the desirability of treatment rather than domicile has engaged public attention, with the result that the medical staffs are likely to be increased.

The equipment of the hospitals is, generally speaking, in accord with modern requirements, excepting of course, where unsuitable legacies in the shape of buildings interfere.

The provision for inspection and supervision varies in the different colonies. New South Wales, Victoria and New Zealand have at the head of their lunacy administration Inspectors-General of the Insane, their places in the other colonies being filled by the senior medical superintendent, colonial surgeon, or medical advisor to the government. The inspectors-general are directly responsible to their governments for the management of all that pertains to the insane in their respective colonies; are charged with computing requirements, advising on questions of medical jurisprudence affecting the insane on behalf of the government, and making periodical inspections of the various institutions. They are, besides, responsible in most cases, for the discharge or further detention of individual patients. In addition to the inspectors-general there



are local boards of visitors, who make at least monthly visitations. These boards are formed of legally qualified medical practitioners, barristers-at-law, police magistrates, or other officials resident for the most part in the neighborhood of the institution to which they are appointed visitors.

The necessities of life, especially meat, are cheaper throughout the colonies than in most countries. The cost of maintenance per capita varies from about 9s. to 13s. per week. The salaries of the attendants on the insane are higher than obtains in England and on the continent of Europe, and more in keeping with the amounts paid in the United States of America.

As the numbers of the insane have increased attempts have been made to separate the acute from the chronic cases, and in some of the colonies it has been effected satisfactorily with reduced cost to the State as a result.

The criminal and non-criminal insane are separated in New South Wales and Victoria where the members of the former justified some such step.

Idiots and imbeciles are embraced under the general lunacy statutes, but special provision is made for this class, notably in New South Wales and Victoria. In the former they are kept entirely separate from the insane in a special institution, whilst in Victoria they are for the most part relegated to specially equipped cottages in connection with the large asylums. No attempt has as yet been made towards the systematic teaching of this class except in Victoria, where the result has been sufficiently satisfactory to warrant its adoption in the other colonies. It may be of interest in this connection to mention that there is no endemic cretinism in Australasia, and very few sporadic cases. Of the latter, however, nine have come under notice.

Almost the whole of the registered insane in the colonies are in the regular institutions provided for them, and the "boarding-out" system has so far had little attention. The general well-to-do condition of the working classes is against the introduction of the system to any extent, although it is desirable for suitable cases of which there are many.

A feature of hospital management in most of the colonies is an arrangement under the statutes for granting "leave of absence" from the hospitals in certain cases when a patient has recovered to a certain extent, and is not further improving or is likely to improve more quickly and satisfactorily through a change of

residence he is permitted to leave the hospital of which he is a patient with a responsible relative, friend or guardian, for a stated time, at the end of which he must be examined either by the medical officers of the hospital to which he belongs, or by a legally qualified medical man. The leave is then extended for a further period, or the discharge is recommended to the Inspector-General of the Insane or like authority. The "absence on leave" clause is found useful also in cases which, after a longer or shorter residence, have lost their acute symptoms, have grown quiet or demented, or whose chief trouble is nostalgia. In the event of the patient "on leave" not doing well he may be returned to the hospital at any time by the responsible person without fresh medical certificates—two of which are required for his original admission. The names of such patients remain on the hospital books, often for years, the knowledge that they are on leave and have not been discharged from the books of the hospital, acting apparently as a check upon their morbid mental condition. The system has been found to work most advantageously, and tends to increase the percentage of recoveries.

The subjoined is a complete list of the hospitals for the insane in Australasia and New Zealand, with the approximate numbers of patients in each at the close of 1889:

NEW SOUTH WALES—Gladesville, 795; Parramatta, 1,002; Callan Park, 772; Newcastle, 245, (special institution for idiots and imbeciles); Tempe, 108, (private institution but has 50 state patients); Parramatta, (criminal), 51.

VICTORIA—Yarra Bend, 940; Kew, 1,150, including idiots in special cottages; Ararat, 600, criminals in special detached building; Beechworth, 550; Sunbury, 550, for chronic insane.

SOUTH AUSTRALIA—Adelaide, 250; Parkside, 530.

QUEENSLAND—Goodna, 874, includes a house for chronic insane at Ipswich; Toowoomba (recently opened).

TASMANIA—New Norfolk, 307; Cascades, (convict insane).

WESTERN AUSTRALIA—Fremantle, 132.

NEW ZEALAND—Auckland, 389; Christchurch, 368; Seacliff, 496; Hokitika, 105; Nelson, 98; Wellington, 272; Ashburn Hall, 42, (private institution).

CHISHOLM ROSS, M. D.,  
Lunacy Department, New South Wales.

DECEMBER 23, 1890.

## NOTES AND COMMENTS.

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DANIEL HACK TUKE, M. D., F. R. C. P., LL. D.—The JOURNAL OF INSANITY is privileged to add to its gallery of distinguished alienists the portrait of one whose name is a household word in the domain of psychiatry the world over.

The name Tuke appears in the seventeenth century in the annals of the city of York, where, in the year 1660, the ancestor of the subject of this sketch suffered imprisonment by reason of his Quaker principles. Dr. D. Hack Tuke is the son of Samuel Tuke, of York, whose "Description of the Retreat," published in 1813, created intense public feeling and led to a Parliamentary enquiry into asylum abuses. Samuel Tuke was the eldest grandson of William Tuke, who founded the York Retreat in 1792, and shared with his contemporary philanthropist in France, Pinel, the glory of having inaugurated a new era in the treatment of the insane.

Dr. D. Hack Tuke was born in 1827. In 1847 he went to the Retreat to familiarize himself with the routine of asylum life, and having pursued his medical studies at St. Bartholomew's and under Dr. Conolly at Hanwell, became a member of the Royal College of Surgeons in 1852. In the following year the degree of M. D. was conferred upon him by the University of Heidelberg; in 1857 he became a Fellow of the Royal College of Physicians, and in 1882 he received the degree of LL. D. from the University of Glasgow.

As a young man he made the tour of the principal asylums of France, Germany, Austria and Holland, an account of which he published in the *Journal of Psychological Medicine*, as well as in an essay on "The Progressive Changes which have taken place since the time of Pinel in the Moral Management of the Insane," which obtained the prize of the Society for Improving the Condition of the Insane. After his return from the continent he was appointed Assistant Medical Officer, and subsequently Visiting Physician, to the Retreat. He filled the chair of Mental Diseases at the York School of Medicine. In 1858, while at the Retreat, he brought out in conjunction with Dr. John Charles Bucknill, "A Manual of Psychological Medicine," which has passed through several editions, and is to-day one of the best text-books on insanity extant. In a remarkable essay published in the *Journal of Medi-*

*cal Science* in 1865, "Artificial Insanity, chiefly in relation to Mental Pathology," Dr. Tuke anticipated with keen scientific foresight, the work of to-day in the elucidation of the phenomena of hypnotism. He submitted that in all probability the disturbance of the brain which accompanies artificial insanity was the same *in kind* as occurs in some forms of mental disease, and that it did not involve structural change; and, from a consideration of the mode in which such artificial insanity might be induced and dispelled, he deduced the importance of the moral treatment of the insane, and especially the necessity of acting systematically upon the attention. He also advocated as worthy of trial a suggestive mode of treatment whereby the alienist might acquire, through Braidism, a sufficient control over the patient's mind to direct the current of his thoughts from morbid into healthy channels. And further, he saw reason to think that, independently of the suggestive treatment, refreshing sleep might sometimes be procured, and restoration to health accelerated, by inducing artificial somnambulism or hypnotism. In the light of recent work in this interesting field of psychological research, it must be conceded that Dr. Tuke was nearly a quarter of a century in advance of his day and generation.

In 1872 appeared "Illustrations of the Influence of the Mind upon the Body," and in 1882, "Chapters in the History of the Insane in the British Isles." Among his other works are "Insanity in Ancient and Modern Life with Chapters on its Prevention," "Sleep Walking and Hypnotism," and "The Insane in Canada and the United States."

Dr. Tuke made a visit to the United States and Canada in 1884.

With a fearlessness worthy of his great-grandsire he exposed glaring defects in the management of certain institutions in the Province of Quebec as the result of which a new asylum has been erected near Montreal.

For many years Dr. Tuke has been co-editor of the *Journal of Mental Science*, in which capacity he has exhibited incomparable energy. He was chosen President of the Medical Psychological Association of Great Britain in 1881. He is an honorary member of the Association of Medical Superintendents of American Institutions for the Insane as well as of numerous other scientific and learned societies. He has served as the Examiner at the London University in "Mental Physiology, especially in relation to Mental Disorder," since this subject was

substituted four years ago for "Psychology and Logic." This is considered a wise move on the part of the University in so far as it recognizes the importance of the study of mental disorders in the curriculum. A paper on "American and English provision for the Insane," prepared for the International Medical Congress held at Washington in 1887 cost the author a vast amount of labor. It may be considered as one of a series of essays on kindred topics, others being that on Gheel, that on the Boarding-Out System in Scotland, (*Journal of Mental Science*, January, 1889,) and two papers read at Leeds in 1889. Closely connected with these statistical enquiries is the article on the "Alleged Increase of Insanity" published in the *JOURNAL* for October, 1886.

At the Congress in London, 1881, Dr. Tuke read a paper on Mental Stupor, the object of which was to show that delusions are oftener present than is supposed and that the term "acute dementia" should be abolished, as its pathology is entirely different from that of dementia properly so-called.

His other clinical studies have been too numerous to mention in this brief sketch.

In 1874 Dr. Tuke removed to London where he is busily engaged as a specialist. He is Visiting Physician to two private asylums, one of which was formerly Dr. Conolly's. Finally, it should be mentioned that this indefatigable worker is now bringing out a "Dictionary of Psychological Medicine."

This is not the place for an estimate of Dr. Tuke's character. We may, however, be permitted, in conclusion, to quote the following from the *New York Herald* of October 17, 1857,\* in reference to his father and to suggest "*qualis pater, talis filius*," as illustrating in this case a striking fact in heredity:

"There was a masterly comprehension of an idea—forcible, clear and well-enunciated expression. On certain occasions the clear summing up of conflicting arguments and the delivery of a lucid judgment with calm precision, yet always with a certain warmth of feeling, elicited a display of mental power not easily forgotten."

"There is a pulse which will beat till ninety!" said Dr. Willan when called to see William Tuke during an illness, and sure enough the patient, then an old man, lived to die a nonagenarian. We cannot wish ourselves a better wish than that his great grand-

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\* American Journal of Insanity, April, 1858.



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For many years Dr. Tuke has been co-editor of the *Journal of Mental Science*, in which capacity he has exhibited incomparable energy. He was chosen President of the Medical Psychological Association of Great Britain in 1881. He is an honorary member of the Association of Medical Superintendents of American Institutions for the Insane as well as of numerous other scientific and learned societies. He has served as the Examiner at the London University in "Mental Physiology, especially in relation to Mental Disorder," since this subject was

substituted four years ago for "Psychology and Logic." This is considered a wise move on the part of the University in so far as it recognizes the importance of the study of mental disorders in the curriculum. A paper on "American and English provision for the Insane," prepared for the International Medical Congress held at Washington in 1887 cost the author a vast amount of labor. It may be considered as one of a series of essays on kindred topics, others being that on Gheel, that on the Boarding-Out System in Scotland, (*Journal of Mental Science*, January, 1889,) and two papers read at Leeds in 1889. Closely connected with these statistical enquiries is the article on the "Alleged Increase of Insanity" published in the *JOURNAL* for October, 1886.

At the Congress in London, 1881, Dr. Tuke read a paper on Mental Stupor, the object of which was to show that delusions are oftener present than is supposed and that the term "acute dementia" should be abolished, as its pathology is entirely different from that of dementia properly so-called.

His other clinical studies have been too numerous to mention in this brief sketch.

In 1874 Dr. Tuke removed to London where he is busily engaged as a specialist. He is Visiting Physician to two private asylums, one of which was formerly Dr. Conolly's. Finally, it should be mentioned that this indefatigable worker is now bringing out a "Dictionary of Psychological Medicine."

This is not the place for an estimate of Dr. Tuke's character. We may, however, be permitted, in conclusion, to quote the following from the *New York Herald* of October 17, 1857,\* in reference to his father and to suggest "*qualis pater, talis filius*," as illustrating in this case a striking fact in heredity:

"There was a masterly comprehension of an idea—forcible, clear and well-enunciated expression. On certain occasions the clear summing up of conflicting arguments and the delivery of a lucid judgment with calm precision, yet always with a certain warmth of feeling, elicited a display of mental power not easily forgotten."

"There is a pulse which will beat till ninety!" said Dr. Willan when called to see William Tuke during an illness, and sure enough the patient, then an old man, lived to die a nonagenarian. We cannot wish ourselves a better wish than that his great grand-

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\* *American Journal of Insanity*, April, 1858.

son, Dr. D. Hack Tuke, may be vouchsafed an equally long life and that for many years to come his American friends and admirers, grateful for his brilliant achievements in psychiatry and the example of his untiring industry, may be able to prove the motto on the seal of the founder of the York Retreat, *Fortior leone amicitia*.

THE CORRESPONDENCE OF THE INSANE.—The extent to which the in-coming and out-going of patients' letters should be subject to supervision has always been a *quæstio vexata* in asylum management. It is a subject upon which all practical alienists hold decided opinions as the result of experience and one also with reference to which certain professional "reformers" give free expression to *doctrinaire* notions because of their inexperience. Unfortunately, the inside view is generally regarded as partisan and upholding the traditional position which alienists have been made to assume in the eyes of the public as the enemies instead of the friends of the insane. Nevertheless, the JOURNAL OF INSANITY may be permitted to call attention to a mischievous bill now pending before the New York Legislature which provides that each patient shall be allowed to name his own correspondent, subject, should he so desire, to change every three months. This bill comes right upon the heels of an order of the State Commission in Lunacy, which not only covers the legitimate ground, but may be said to overlap it by a considerable margin. This recent ruling concedes to the insane the privilege of sending sealed letters to the Governor, Attorney-General, Judges of Courts of Record, District Attorneys and the State Commission in Lunacy.\* One might have supposed that the rights of the insane had been sufficiently safeguarded in this provision, assuming that asylum superintendents had theretofore been in the habit of detaining correspondence destined for the eyes of those State and county officials. But the "Anti-Kidnapping League and Lunacy Reform Association" is not so minded.

This recently organized association appears to be made up of (1) at least one paranoiac; (2) that large semi-responsible class who spend their lives in depths of social degradation which their own morbid imaginations have created and who are forever wailing out, in Pharisaical protest, against the ungodliness of all the world except their own select coterie; and (3) a few (a *very* few) real philan-

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\* See page 452.

thropists who are eager to do good in any way but who are not possessed of the true data concerning this subject. That all the members of the "League" are about equally ill-informed is shown by their propaganda, which seems to relate chiefly to the matter of correspondence of the insane. And this very point happens to be fully covered by the ruling of the State Commission in Lunacy. The real hardship of such latitude in letter-writing would surely bear most heavily upon the patient himself who, after recovery, would be the first to complain that compromising letters had been sent to their destination, thus exposing his infirmity at a time when he, a *patient*, was entitled to protection at the hands of his *physician*. Indeed, we are informed that suit was once brought against an asylum superintendent on precisely these grounds. But—it may well be asked—have the sane no rights that are entitled to respect? Shall the patient be permitted to annoy whomsoever he selects with his unwelcome screeds? One can imagine with what eagerness, to cite one instance out of a multitude that suggest themselves, the recent assassin of Dr. George F. Lloyd would have availed himself, when a patient at the Flatbush Asylum, of this proposed privilege to harass Miss Mary Anderson with his insane and terrifying letters.

A moment's sober reflection must convince all true friends of the insane that the proposed bill is wholly uncalled for and furnishes the basis for incalculable mischief without promoting in any way the interests of the patient in whose behalf it is conceived. If the experience of the New York State Hospitals goes for aught, it rarely happens that in-coming letters are not immediately delivered, with seal unbroken, and as regards those written by patients to friends outside a wide latitude is always allowed in the discretion of the medical officers. All letters not forwarded are subject, and have been for years, to inspection by the Commissioners in Lunacy.

The experience of Iowa has been instructive. Anxious to be in the van of "reform" in this matter, this State passed a law several years ago making it the duty of the superintendent to forward to their destination, without inspection, certain privileged communications. Thus it came to pass that at one of the institutions in that State three or four paranoiacs were permitted to give free rein to a symptomatic and malicious *cacoëthes scribendi* by devoting their entire time to hunting up gossip about the institution, religiously writing it down (with sundry

embellishments, of course) and sending it to the "powers that be." Again and again it happened that an "investigating committee" of the visiting committee (usually the female member thereof) was sent to the hospital bearing an order from the Governor of the State to look into certain matters that had been brought to his notice by letters sent by these paranoiacs. The number, variety, and far-reaching character of these charges can only be imagined by one who has had experience with persons suffering from delusions of a persecutory character. One of these privileged persons had shot a man and the asylum afforded him an alternative refuge to the penitentiary, and another declined to leave the institution unless she were given a certificate declaring that she was not, and never had been, insane. It invariably happened that the charges disappeared when investigated, and it is the candid opinion of Iowa alienists that not one iota of good ever came to any individual or to any cause from any use of these letters—except, perhaps, that the visiting-lady was liberally paid for time which otherwise, it may be, was of little value.

It remains to be seen what effect the order of the Commission will have in allaying the apprehension of the public, always excepting, of course, that small portion thereof which constitutes the "Anti-Kidnapping League." Its effect upon the patients has already shown itself in the frequent writing, by a few of them, of voluminous letters to the officials named above, and in some instances letters have been surreptitiously enclosed in such privileged communications destined for unauthorized correspondents. To one of the hospitals a District Attorney has undertaken a bootless journey, at the behest of a Justice of the Supreme Court, to investigate on the spot a charge of murder made out of whole cloth by a patient who himself threatens to kill the superintendent at his first opportunity. Both officials would probably have been spared considerable time and trouble if the patient's mysterious revelations had been subject to inspection and forwarded to the judge with an explanatory comment.

It is perhaps too much to expect that the medical officers of hospitals for the insane will ever be credited by the public with the common honesty of their brethren elsewhere, or that it will ever be assumed that they are not at all times ready to persecute their wards in every conceivable way and, when occasion requires, even to compound felony. Policy may therefore have suggested the unsafety of leaving the regulation



of the correspondence of the insane in their hands. Neither is it likely that the issuance of such orders will have other tendency than the creation of further distrust of such officers, on the part of patients and public alike, by imputing to them a bad faith towards either or both, which, so far as we are aware, the facts have never warranted. May it not be that all this mollicoddling of murderous madmen is somewhat subversive of good discipline? We suggest the query and leave each reader to make the answer that his practical experience will supply.

**PHYSICIANS IN THE NEW YORK STATE HOSPITALS.**—The New York Civil Service Commission has recently adopted, with the approval of the Governor, a new scheme for the examination of physicians in the State hospital service. In order to enter the medical service as junior assistant physician, the following qualifications are required: 1st. The applicant must be a graduate of a legally incorporated medical college. 2d. He must pass a competitive examination. 3d. He must have had at least one year's experience in a general hospital or three years' experience in the general practice of medicine.

Promotions may be made between the grades of junior and first assistant physicians.

For promotion to the position of first assistant physician, the following conditions are required: 1st. The candidate must be at least twenty-three years of age. 2d. He must have at least three years' practical experience in a city or State hospital for the insane. 3d. He must pass a competitive examination.

For promotion to a superintendency: 1st. The candidate must be at least thirty years of age. 2d. He must have had at least five years' actual experience in his profession in a city or State hospital for the insane. 3d. He must pass a competitive examination. 4th. Once having passed such examination for a superintendency, the candidate will be eligible for appointment for at least three years.

**DISCHARGE OF PATIENTS ON PAROLE.**—The utility of some provision for the parole of patients whose mental poise has not been sufficiently tested to warrant absolute discharge has long been recognized by alienists. The practical difficulty seems to have been to fix a period during which the patient might still have the privilege of returning to the institution without going

through the form of a fresh commitment. There is no express statutory provision in New York State for such paroles, and in consequence of this defect patients have sometimes been deprived of a useful means of treatment. In this connection it is interesting to note what has been done in New South Wales, and attention is called to the admirable letter from the correspondent of the JOURNAL OF INSANITY in that colony published in this issue, in which the whole question of "Insanity in Australasia" is comprehensively treated. It appears that the feature of parole is embodied in the statutes of most of the colonies, whereby leave of absence from the hospitals is permitted in certain cases when the patient has recovered to a certain extent and is not further improving, but is likely to improve more quickly and satisfactorily through a change of residence. He leaves the institution, under the guardianship of a relative or friend, for a stated time, at the end of which he must be examined either by the medical officers of the hospital or by a legally qualified physician. The parole is then extended for a further period or a discharge is recommended to the Inspector-General of the Insane or like authority. Dr. Chisholm Ross writes, as might have been conjectured on *a priori* grounds, that this "absence on leave" clause is found useful also in cases which, after a longer or shorter residence, have lost their acute symptoms, have grown quiet or demented, or whose chief trouble is nostalgia. In the event of the patient on leave not doing well, he may be returned to the hospital at any time by the responsible person without fresh certificates. The names of such patients remain on the hospital books often for years, the knowledge that they are on leave and have not been absolutely discharged from the the hospital acting apparently as a check upon their morbid mental condition.

May it not be that the high recovery rate in the hospitals of New South Wales has something to do with this wise provision?

## CORRESPONDENCE.

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### OPINION OF THE ATTORNEY-GENERAL IN THE MATTER OF THE AUTHORITY OF THE COMMISSION IN LUNACY TO DIRECT THE MANAGEMENT OF THE NEW YORK STATE ASYLUM FOR IDIOTS.

SYRACUSE, N. Y., Jan. 6, 1891.

*Editor of the American Journal of Insanity, Utica, N. Y.:*

DEAR SIR: A question recently arose between the State Commission in Lunacy and the Board of Trustees of the New York Asylum for Idiots regarding the authority of the Commission to direct the management of the affairs of the Asylum; and the superintendent of the asylum was directed, by resolution of the trustees, to ask the opinion of the Attorney-General of the State. This opinion has been received and clearly defines the distinction between the asylum for idiots in this city and the asylums for the insane throughout the State.

Inasmuch as the objects of the New York State Asylum for Idiots are of a special educational character, having no corresponding relationship to those for the insane—as the Attorney-General plainly shows—and as they are quite commonly misunderstood by persons interested in lunacy matters, I have thought the opinion was of sufficient importance to request its publication in full in the JOURNAL OF INSANITY, if the space on the pages of the JOURNAL will permit, and I herewith inclose a copy for that purpose.

Very respectfully yours,

ROBERT ABERDEIN, M. D.,

Secretary of the Board of Trustees of New York State Asylum for Idiots.

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STATE OF NEW YORK, }  
ATTORNEY GENERAL'S OFFICE, }  
ALBANY, Dec. 22, 1890.

*Dr. J. C. Carson, Superintendent New York State Asylum for Idiots,  
Syracuse, N. Y.:*

DEAR SIR: Your letter of December 5th received, with a resolution of the Board of Trustees of the above named asylum, asking for my opinion "as to whether the State Commission in Lunacy has authority to, in any way, direct

the management of the affairs of this asylum, and if the Commission in Lunacy is possessed of such authority, how far it extends."

In reply thereto I beg leave to say: The provisions of the statute relating to the incorporation and establishment of the New York Asylum for Idiots are embraced in Chapter 502, Laws 1851, Chapter 159, Laws 1853, Chapter 163, Laws 1855, Chapter 220, Laws of 1862. (See R. S., 8th Ed., pages 2195, *et seq.*)

This asylum is a State institution under the control and management of a Board of Trustees, consisting of certain State officers named, and trustees nominated by the Governor, with the approval of the Senate. The management and control of this institution is in its Board of Managers or Trustees, and this Board is empowered to establish such by-laws as they may deem proper, to regulate the appointment and duties of officers, and to "ordain and enforce a suitable system of rules and regulations for the internal government, discipline and management of the asylum."

It is quite apparent from an examination of the provisions of these different acts that this institution named is largely educational in its character, and is intended more particularly for the education and improvement of "pupils," as distinguished from the general class of persons of "unsound mind," and has no corresponding relation to insane asylums intended for the confinement of persons sent there upon the certificate of physicians and by commitments of magistrates.

The office of the present "State Commissioners in Lunacy" was created by Chapter 283, Laws 1889, and continued by Chapter 273, Laws 1890. This later act, while in the form of an amendment to former acts, was in fact intended to be a revision and consolidation of all acts relating to the State Commission in Lunacy and the care and custody of the insane, and may be referred to therefore as furnishing all the powers and duties of the commissioners in lunacy, except as this act itself refers to other acts not repealed.

The general provisions of this act of 1890 in great detail fix the duties and powers of these commissioners, and upon their face it must be admitted that they relate to insane asylums, public and private, and institutions for the care and custody of the insane, and among other things, to examinations and investigations of the buildings, as well as the records and methods of administration, and the power to demand and receive reports from the officers of said institution. (See sections 7 to 11).

By section 12 of this Act, provision is made that "no person shall establish or keep an institution for the care, custody or treatment of the insane, or persons of *unsound mind*, for compensation or hire, without first obtaining a license therefor from the State Commission in Lunacy; provided that this section shall not apply to any State asylum or institution, or any asylum or institution established or conducted by any county; and provided also that it shall not apply to cases where an insane person or person of unsound mind is detained and treated at his own house or that of some relative."

Section 22 of this act gives a statutory definition to the words "asylum" and "institution," as they are used in this act, and they both are declared to mean in substance "a building, home or retreat for the insane and for the care, custody and treatment of the insane."

Whatever powers the commissioners in lunacy may have over the New York State Idiot Asylum, must be found in some other statute. By section 21 of this Act of 1890, it is provided that "all powers and duties conferred upon the State Commission in Lunacy by Chapter 571 of the Laws of 1873, Chapter 446 of the Laws of 1874, or Chapter 47 of the Laws of 1878, or acts amendatory thereof, or by any other act not herein specifically enumerated are transferred to and conferred upon the State Commission in Lunacy created by this Act, and the office of State Commissioner in Lunacy is hereby abolished."

An examination of these different acts is therefore necessary to determine what powers are in fact and in law transferred to the Commission.

Chapter 571 of the Laws of 1873 was an act entitled "An Act further to define the powers and duties of the Board of State Commissioners of public charities, and to change the name of the Board to the State Board of Charities."

Section 13 of this Act made provision for the appointment of a State Commissioner in Lunacy, who was to be also *ex-officio* a member of the State Board of Charities.

Section 14 of the Act fixes the duties and powers of this officer. But these powers and duties, so far as material, were re-enacted and continued in Chapter 446, Laws of 1874, which was an Act entitled "An Act to revise and consolidate the statutes of the State relating to the care and custody of the Insane; the management of the asylums for their custody and safe keeping, and the duties of the State Commissioner in Lunacy." (See Revised Statutes, 8th Ed., page 2155.)

The powers and duties of the State Commissioner in Lunacy, as provided for by this act, are found in title 10, page 2174, R. S., *supra*.

It has been, I think, generally assumed that, previous to the enactment of Chapter 273 of the Laws of 1890, that this act of 1874 repealed by implication Chapter 571, Laws of 1873 aforesaid, within the principle that the Act of 1874 was a revising statute, and was intended to contain the entire law upon the subject, excepting as therein expressly limited. (See matter of New York Institution, 121 N. Y., 234.)

But this question is not material here, for the reason that all of the powers given to the State Commissioner in Lunacy by the Act of 1873 *supra*, are confirmed by the later act. By Section 2 of Title 10, "It shall be the duty of such commissioner to examine into and to report annually to the legislature, on or before the 5th day of January, the condition of the insane and idiotic in this State, and the management and condition of the asylums, public and private, and other institutions for their care and treatment. And it shall be the duty of the officers and others respectively in charge thereof to give such Commissioner at all times free access, whether in person or by written communication, to the *insane* and full information concerning them and their treatment therein."

By Section 4 of this title, "The said commissioner is hereby empowered to issue compulsory process for the attendance of witnesses and the production of papers, to administer oaths and to examine persons under oath, and to exercise the same powers as belong to referees appointed by the supreme court, in all cases where, from evidence laid before him, there is reason to



believe that any person is wrongfully deprived of his liberty, or is cruelly, negligently or improperly treated in any asylum, institution or establishment, public or private, *for the custody of the insane*; or whenever there is inadequate provision made for their skillful medical care, proper supervision and safe keeping; and if the same shall be proved to his satisfaction, he is further empowered to issue an order in the name of the People of the State and under his official hand and seal, directed to the superintendent or managers of said institution, requiring them to modify such treatment or apply such remedy, or both, as shall therein be specified."

And further provision is made in the same section for proceeding in the Supreme Court, in case of the refusal upon the part of the officers of such institution to obey the said order.

The other statutes referred to in Section 21, *supra*, do not add to the powers or duties of the commissioners, so far as I can see.

So that we are limited substantially to the provisions of the 10th section of the law of 1874, to ascertain the powers and duties of the State Commission in Lunacy, as it existed before the passage of the act of 1890.

An examination of the different sections of Title 10 show conclusively that while it is the duty of such commissioner "to examine into and report annually to the legislature on or before the 5th day of January the condition of the insane and idiotic in this State," so far as idiotic institutions are concerned, the power and duty ceases here.

So far as the duty of the officers in charge of the different institutions named, to give the commissioners at all times free access, whether in person or by written communication, is concerned, it is specifically limited to the insane, and so with reference to the power to issue compulsory process and to examine persons under oath. The power is expressly confined to persons who are wrongfully deprived of liberty, or are cruelly, negligently or improperly treated, "in any asylum, institution or establishment, public or private, for the custody of the insane."

It must be that the legislature had some good and valid reason for making this distinction between the two cases. Otherwise, we are forced to the conclusion that the use of the word "idiotic" in Section 2 of Title 10, *supra*, as well as in Section 14 of the act of 1873 cited, was by inadvertence.

There is some ground perhaps for this in the fact that by section 4 of the act of 1873, power was given to any one of the board of charities (the State Commissioner in Lunacy *ex-officio* being one) of visitation and investigation of the institutions licensed for the detention, treatment and care of the insane or persons of unsound mind, as thereafter provided.

But by section 9 of that act, as in section 12 of the act of 1890, State asylums and institutions were expressly excepted; and as bearing upon this question, it may also be suggested that neither the title of Chapter 571 of the Laws of 1873 or of Chapter 446 of the Laws of 1874 refer to idiot asylums, but both do specially refer to the care and custody of the insane.

"The title of an act, while no part of it, may yet be legitimately resorted to to aid in determining the legislative intent, when that intent is otherwise somewhat ambiguous."

People vs. Coleman, 121 N. Y., 544.

A question has also suggested itself, whether the use of this word did not arise from the general idea or opinion that "idiots" might well be inmates of insane asylums, as the term is used in the statutes; and perhaps some force is given to this position by the provision of Section 5 of Title 10 *supra*, by which "the superintendent or keeper of every county poor-house, city alms-house or other asylum where insane paupers are kept, shall \* \* \* in each and every year, report to the State Commissioner in Lunacy the number of male and female insane, idiots and epileptics in his custody, etc."

But I am of the opinion that the better construction of these statutes is to hold that the use of the word "idiotic" in the two sections referred to, was intentional on the part of the legislature; and while it was deemed proper and necessary that the Commission in Lunacy should examine into and report annually to the legislature, the condition of the insane and idiotic in this State, as well as the management and conduct of the asylums, public and private, for their care and treatment, it was intended that this examination should not include the summary right to issue process for the attendance of witnesses and the production of papers, etc., or to make orders which could be enforced in the Supreme Court, as provided by Section 4 of Title 10, *supra*.

But, in any view of the case, I am of the decided opinion that the powers and duties of the Commissioners in Lunacy so far as they relate to the State Asylum for Idiots at Syracuse, must be confined to the examination and report provided for by Section 2 of Title 10 of the Act of 1874, and that they have no authority "in any way to direct the management of the affairs of this asylum."

Very respectfully,

Your obedient servant,

CHARLES F. TABOR,

*Attorney-General.*

ORDERS, FORMS AND CIRCULARS OF THE STATE COMMISSION  
IN LUNACY.\*

## STATE OF NEW YORK—STATE COMMISSION IN LUNACY.

At a Special Session of the State Commission in Lunacy,  
held at the Capitol, in the City of Albany, on the  
eighteenth day of November, 1890.

Present—CARLOS F. MACDONALD, M. D.,	} Commissioners.
<i>President,</i>	
GOODWIN BROWN, HENRY A. REEVES,	

*In the Matter of the Correspondence of Inmates of  
Institutions for the Care and Treatment of the  
Insane.*

*Ordered:*

1. That each insane patient be permitted to write to some relative or friend once in two weeks, and oftener if necessary, in the discretion of the Medical Superintendent. In the case of patients unable for any cause to write, the Medical Superintendent must direct some proper person to write for such patients at suitable intervals, if they so desire. All letters must be forwarded at once, unless they are obscene, profane, illegible or too incoherent to be understood, and the postage must be furnished by the institution, if relatives or friends are unable to provide the same.

2. All letters detained because of obscenity, profanity or for other reasons, must be forwarded at once to the office of the State Commission in Lunacy, and reasons for the detention must be briefly stated in each case by endorsement upon the envelope.

3. All letters addressed to the Governor, Attorney-General, Judges of Courts of Record, District Attorneys or the State Commissioners in Lunacy must be forwarded at once, without examination.

BY THE COMMISSION:

T. E. MCGARR,  
*Secretary.*

[L. S.]

\* See also October Number, pp. 296-310.

## STATE OF NEW YORK—STATE COMMISSION IN LUNACY.

At a Special Session of the State Commission in Lunacy,  
held at the Capitol, in the City of Albany, on the  
eighteenth day of November, 1890.

Present—CARLOS F. MACDONALD, M. D.,	} Commissioners.
<i>President.</i>	
GOODWIN BROWN, HENRY A. REEVES,	

*In the Matter of the Parole and Escape of Inmates of  
Institutions for the Care and Treatment of the  
Insane.*

It having been made to appear that

(a) A custom has long prevailed, without authority of law, although sanctioned by long usage, in various institutions in the State for the care and treatment of the insane, of permitting patients to temporarily leave the institutions to visit friends, or to go out "on trial," for a time not fixed and entered on the books of the institutions and extending over indefinite periods, sometimes even more than a year, and

It having been made to appear that

(b) Due diligence has not always been exercised to discover the whereabouts of insane patients who have escaped, and to promptly secure their return; long intervals often elapsing between the date of escape and return; and

(c) Patients suffering from insanity being liable to recover at any time, and deprivation of liberty being justifiable only so long as insanity exists, and where long intervals are permitted to elapse between the date of parole or escape and the date of return of patients to an institution, the possibility may arise of their being re-confined when not insane, by reason of recovery during such interval; it is hereby

*Ordered:*

1. That no insane patient, while in the custody of an institution be permitted to go upon parole, who in the judgment of the medical superintendent is homicidal, suicidal, destructive or dangerous either to himself or others.

2. That no parole be granted for a greater period than thirty days, exclusive of the date thereof, and that the following entries relating to said parole be made in the patient's history in the "case book": Date of parole, place or places where patient may go, and, if paroled to the care of a person, the name and residence of such person, and the date when such parole is to end.

3. That upon the escape of a patient, prompt and vigorous measures be taken to secure his return; relatives or other persons responsible for the commitment of such person must immediately be notified in writing, and where possible by telegraph, and the date of the escape and proceedings taken in relation thereto must be entered in the "case book" at once.

4. A patient who has been paroled or who has escaped, if not returned to the institution on the thirtieth day, exclusive of the date of parole or escape, must be discharged from the books upon that day, and thereafter a notice of such discharge by parole or escape must be forwarded to the Commission, but not otherwise, and such patient must not be re-admitted except upon a new medical certificate of lunacy, the cost of which and of the return of the patient (except in the case of private institutions by special agreement) must be borne by the institution.

5. But nothing in this order contained shall be construed to justify the relaxation of diligence at the expiration of thirty days from the date of escape to secure the apprehension of an escaped patient, nor, in the case of a patient confined in a State Hospital, shall this order be held to justify charging the highest rate by reason of a return upon a new medical certificate made necessary by absence for a greater period than thirty days upon a parole or escape, and the time of such absence shall be estimated as a part of the time during which the highest rate can be charged if the escape or parole occurred during such time.

6. Nothing in this order contained shall be construed to permit a patient held on a "criminal order" to be paroled, or discharged in case of escape.

BY THE COMMISSION;

[L. S.]

T. E. McGARR,  
*Secretary.*



## OBITUARY.

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J. B. JONES, M. D.

Dr. J. B. Jones, late Superintendent of the Western Hospital for the Insane, Bolivar, Tennessee, was born in Charlotte county, Virginia, January 21, 1840, and died at that institution November 15, 1890.

Dr. Jones was a graduate of the medical department of the University of Nashville, and of Bellevue Hospital Medical College, New York, and for twenty years was a successful practitioner of medicine in Carroll county, Tennessee, to which place his parents removed in 1844.

In 1886 he was chosen Medical Superintendent of Construction of the projected hospital for the insane at Bolivar, Tenn., by the Board of Building Commissioners, and on its completion in 1889, he was elected Medical Superintendent by the Board of Trustees, and opened the institution for patients on November 22d of that year.

He was in active hospital work less than one year, but developed qualifications and aptitude therefor which gave promise of uncommon usefulness. He was a physician of excellent scientific attainments and skill, and possessed administrative capacity of a high order, and had successfully launched the new institution when he was stricken down with acute phthisis and succumbed to the malady in a few months.

Dr. Jones attended the meeting of Hospital Superintendents at Niagara Falls in June, 1890, and was apparently in robust health, and greatly enjoyed the association with his collaborators in the specialty, and was looking forward to a successful and honorable career in his position. He was thoroughly manly in every respect, a consistent Christian, a conscientious officer, possessed fully of the confidence of the Board of Trustees, and a citizen highly esteemed by all classes. His premature death was a severe loss to the institution, and the Association of American Hospital Superintendents is robbed in his death of a member who bade fair to confer honor on the body.

J. H. C.

## DR. BAILLARGER.

In the death of the venerable Dr. Baillarger, Honorary Physician of la Salpêtrière, member and formerly president of the Academy of Medicine, France loses one of her most distinguished citizens and the specialty of mental medicine one of the most illustrious representatives that the world has ever produced. The master expired peacefully, early in January, in the eighty-first year of his life.

Baillarger was a pupil of Esquirol, under the influence of whose and Pinel's teachings, he may be said to have founded the modern French school and established mental nosography upon a solid basis. He was a hard worker and prolific writer. There is scarcely a topic in psychiatry that has not been elucidated by his personal researches and treated with that thoroughness and precision which were so characteristic of all his work.

He made his *début* in authorship by his memoir, now a classic, on *la structure de la couche corticale des circonvolutions*, in which he demonstrated, by virtue of the property possessed by grey matter of permitting the passage of rays of light, that the cortex is composed of six layers, regularly superposed and stratified and alternately grey and white. In the same line were the two essays, one on *l'étendue de la surface du cerveau et ses rapports avec le développement*, and the second on the *mode de formation du cerveau*. In the latter memoir he demonstrated the existence of the cortical layer, stratified as above mentioned, as early as the fifth month of foetal life. He did much to improve the existing classification of insanity, particularly with reference to so-called partial insanities, and he may be said to have discovered melancholia with stupor, and established its true position in his *mémoire sur la stupidité*.

Again, it is to Baillarger, in conjunction with Falret, that we owe the first scientific description of those forms of insanity that are characterized by alternations of depression and exaltation and cyclical recurrence. His contributions to the study of hallucinations, as contained in his *Physiologie des hallucinations* and other essays, were important, and led to their subdivision into *psychic* and *psycho-sensory hallucinations*. In goitre and cretinism he was also a close student and accurate recorder. Perhaps no one writer has added more to the literature of general paralysis than the deceased author. He was the first to call attention to the inequality of the pupil as a prodrome and early

symptom, and to the relationship of general paralysis to locomotor ataxy, and of delirium to parietic dementia, the former disappearing in certain cases of remission, while the latter persists, thus seeming to establish the dualist doctrine of the disease—all this, and much else, we owe to the researches of Baillarger.

Even in his retirement he did not cease to work, the last years of his life having been devoted to a careful review of his writings, which were published a few months ago in two volumes, and are bequeathed as a precious legacy to the profession.

Dr. Baillarger took the initiative in establishing the *Annales Médico-psychologiques*, and was its untiring editor for many years.

He was a man of great benevolence and charity, whose lofty altruism showed itself in countless benefactions, the source of which he sedulously concealed from the public. It is said that many of his gifts in charity were bestowed in the name of his grandchildren, to the end that they might be led to cultivate the humanitarian virtues. He took great interest in a society—and, indeed was its founder—to protect and provide for patients who had been discharged recovered from la Salpêtrière and Bicêtre, as well as in another looking to the succor of the “fatherless children and widows” of deceased alienists, by organizing and presiding over “*l'Association mutuelle des médecins aliénistes de France*.” His devotion to the patients of la Salpêtrière is an imperishable memory, and especially are his courage and self-denial, as shown during the epidemic of cholera in 1849, remembered at that institution.

For the facts in this brief obituary the JOURNAL makes acknowledgment to the excellent biographical sketch by Dr. Laborde, contained in the *Tribune Médicale* of January 8, 1891, as well as to the eloquent eulogy pronounced at Dr. Baillarger's grave by Dr. Blanche.

## HALF-YEARLY SUMMARY.

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ALABAMA.—Dr. P. Bryce, Superintendent of the Alabama Insane Hospital, Tuscaloosa, writes:

"Among the many changes and improvements made since our last half-yearly report, the most important perhaps is the recent purchase of a tract of eight hundred acres of farming and pasturage land lying on the Warrior River, two miles east of the hospital. It might be interesting to others to know that this beautiful and productive plantation was purchased for the sum of \$8,000, which, with an additional sum of \$4,500 for buildings, fencing, tools, stock, etc., was promptly appropriated by the Legislature. It is proposed to cultivate this plantation with the labor of the male patients.

The question of an annex for private or paying patients, to be erected on the grounds of our present buildings, is discussed with much favor by the members of the Legislature; and some action may be taken before the close of the present session. Although Alabama does not exclude by law the admission of private or paying patients to the State hospital, she gives precedence in order of admission to the indigent, or those who are unable to pay their own expenses. The result is that when the hospital becomes crowded, as it is now, and applicants are received only as vacancies occur, the paying patients are no longer admitted, and must either be kept at home, or be sent to some of the private asylums outside of the State. This is so manifestly unjust to the better class of citizens and tax-payers, that it needs only to be mentioned to be reprobated. The families and friends of a large majority of these paying patients, while not possessed of very ample means, are nevertheless willing and able to pay the reasonable cost of their support in the hospital. Having no need of pecuniary assistance, they neither desire it nor are willing to accept it from the State. What the friends of these private or paying patients do want, however, and what they are entitled to by every consideration of right and justice, is an equal privilege with the indigent class of placing their friends in their own State institutions, where they have confidence in the officers in charge, and where they can secure the proper care and attention for their loved ones as near home as possible, and at a reasonable cost. It is well known that private or proprietary institutions for the insane are necessarily costly, and the charges for the care of patients are many times greater than those of our State hospitals. I have nothing to say against well conducted private asylums, and for the very wealthy class they are indispensable; but they are not available for the large majority of well-to-do persons who are compelled to place their unfortunate friends in seclusion, and whose means are limited.

In my report just made to the Legislature I presented this question at some length, and suggested that steps be taken at once to erect on or near the site of our present hospital a building for the exclusive use of the private or paying class of patients. I stated that such a building could easily be erected on our present grounds, and could be made an ornamental as well as a most useful adjunct to our present plant. The building should be of the most approved

modern construction, capable of affording such comfort and even luxuries as the most fastidious could desire, and were willing to pay for. While the cost of such a building, capable of accommodating one hundred patients, need not exceed a hundred thousand dollars, the receipts for board and medical attention would yield a handsome revenue to the State over and above all expenses. A building of this character could hardly fail to prove a great blessing to such of the citizens of the State as are able and willing to pay a reasonable price for the care and treatment of their insane friends and relatives, and who would prefer to have them as near home as possible. As a pecuniary investment alone such a building as I have described would well repay the State for the amount expended in its erection.

I believe that there should be a building exclusively for private or paying patients attached to every public hospital for the insane in the land. Our State institutions need just such an adjunct to make them complete and capable of conferring the greatest benefit upon the people of the State; and no institution for the insane, in my judgment, can be considered thoroughly equipped or complete in its arrangements that does not provide for the reasonable wants of all classes of the insane."

ARIZONA.—Under the superintendency of Dr. Toney, many improvements are being made in the State asylum at Phoenix. Among these are minor repairs about the building and grounds, and a system for removal of sewage by irrigation. An electric light plant is to be placed, and telephone communication with the town will be established in the near future.

ARKANSAS.—At the coming session of the Legislature it is expected that the question of additional accommodation for the insane will be considered. Dr. Hooper, in his report, recommends enlargement of the hospital at Little Rock.

CALIFORNIA.—The first meeting of "The Association of Superintendents and Boards of Managers of California Hospitals for the Insane," was held at Stockton in July last. Dr. E. T. Wilkins was elected President and Dr. F. W. Hatch, Secretary, and permanent organization was completed by the appointment of committees. Various matters of interest were discussed, among them being the necessity of completing the asylum for criminal insane at San Quentin, the importance of establishing training schools for nurses, and the deportation of insane Mongols.

—Dr. John W. Robertson has been chosen Professor of Mental Diseases and Medical Jurisprudence in the Medical Department of the University of California, to fill the vacancy caused by the resignation of Dr. Mays.

—The appropriations made by the last Legislature for the erection of two new State asylums for the insane are being judiciously expended, and the work of construction is under way. The corner stone for the Mendocino Asylum was laid on the 6th, and that at San Bernardino on the 13th of December. At both places the stone was laid with Masonic honors, the ceremonies being elaborate and the occasion of excursions and a holiday for the



surrounding country. Governor Waterman and staff attended, and the official address on each occasion was delivered by the Hon. Marcus D. Bourck, Private Secretary to the Governor. It is believed that both buildings will be sufficiently completed during the next year to accommodate at least a small number of patients.

—The new asylum at Agnew is being rapidly filled. The wings have been completed and are now occupied by nearly six hundred patients. The executive building, situated between the two wings, is almost ready for occupation. Under the able management of Dr. Hatch, the new Superintendent, all discord between the Board of Trustees and the Hospital staff has ceased, and there is every indication that authority will be placed in the hands of the Superintendent. The institution will be as free from extraneous personal and political influence as has hitherto characterized the management of the other asylums in this State.

ILLINOIS.—The new annex building of the Central Hospital for the Insane, to accommodate three hundred patients, together with the necessary officers, attendants and employés for their care, is now under roof, and considerable progress has been made toward plastering it. This building is a duplicate of the annex erected in 1885, and is joined to it by a building to be used for chapel and amusement hall, capable of seating six hundred patients. These buildings were built by day labor, under the supervision of Dr. H. F. Carriel, Superintendent of the Hospital, at a great saving in cost to the State, and insurement of better workmanship. When this annex building is completed, furnished and equipped, which will be about September 1st next, provision will have been made for about 1,250 patients in this hospital. The last session of the Legislature (in 1889) provided for the erection of three buildings, one each at the Northern Hospital at Elgin, at the Central Hospital at Jacksonville, and at the Southern Hospital at Anna, to accommodate nine hundred patients in all, and a small hospital on the grounds of the Southern Penitentiary at Chester, to care for the criminal Insane. The combined capacity of these several buildings will not relieve the pressure for accommodation of the insane population, that is constantly being made, and which is increasing at a greater proportion than is the increase of the population of the State.

INDIANA.—The Southern Hospital for Insane, at Evansville, was opened for the reception of patients on the 30th of October, and the population December 1st, was ninety patients and forty employés. It is hoped by the first of April, 1891, to have the full capacity of four hundred patients and one hundred employés.

IOWA.—The Hospital at Mount Pleasant has completed a cold storager building with six separate compartments for different perishable supplies for the use of the hospital; also a substantial brick ice-house with a capacity of one thousand tons of ice for domestic purposes. Several wards have been painted and decorated, and there has been erected an addition to the rear centre to be finished off as an amusement hall. This work, with that of an enlarged and improved chapel, is being pushed forward as rapidly as possible.

An opportunity for pathological work is afforded by the appointment of an additional member to the staff.

**KANSAS.**—The Kansas Institutions for the Insane, are crowded, owing to the fact that no appropriation for increasing the accommodations was made by either of the last two (biennial) Legislatures.

Kansas laws provide that the Probate Judges must make application to the Superintendent at Topeka for admission of patients to either of the two asylums, and the application is accepted or rejected according to circumstances. The policy is to accept all recent and presumably curable cases, even if chronic ones must be discharged to make room. During the biennial period ending June 30th, 1890, the number of applications refused and of patients discharged to make room, was one hundred and ninety-five, and in the last five and one-half months the number was seventy-six. Many of the rejected and discharged patients are lying in jails. There are nine now in the jail of the county in which the Topeka Asylum is situated.

The report of the Board of Trustees just submitted to the Governor, recommends some enlargement of the present institutions, to render them more complete, and also the founding of a third asylum at some more western point, convenient of access to that part of the State.

**MAINE.**—Two additional wings have been completed at the Maine Insane Hospital during the past summer, and were ready for occupation in September. They are well appointed structures and will accommodate about one hundred patients of either sex. Three of the six wards are occupied, and in consequence of new accommodation there has been an influx of patients. At the close of November, which completed the hospital year, there were about fifty patients in excess of the previous year, and the daily average has been much increased. A good degree of health has prevailed among the patients throughout the year.

**MASSACHUSETTS.**—A Commission, consisting of Dr. A. R. Moulton, State Inspector of Institutions, and two others, has been appointed, to select a site and procure plans for an asylum to be located in the eastern part of the State, to accommodate one thousand patients.

—A vocation has been bought for the Danvers Hospital from a fund contributed by friends of the Institution, and from the proceeds of a concert given in the town hall for the purpose, in November last.

—A skating rink, formed by flooding a part of the lawn within a mound of earth, with an area of a third of an acre, has been established at Danvers. The rink is illuminated during the evening and patients occupy it until ten o'clock. The result upon patients is said to be better than from any other pastime.

—In the annual report of the Westborough Insane Hospital for the year ending September 30, 1890, is contained the following record of the treatment of fifty-two cases of epilepsy:

"In every one the disease was of long duration. Some were admitted directly from their homes, but more had been transferred in former years from other hospitals. In all cases medical treatment had been tried, and their admission to this hospital showed it had been ineffectual. During their residence here, many medicines had been prescribed according to the symptoms, and many means aside from medication had been tried, but with only occasional cures or alleviations. A decided change was then made. All the epileptic patients were given for a certain period, about three months, the same medicines, under, as near as possible, the same conditions. The medicines chosen were *Artemesium* Abs. 1x, *Glonoine* 3x, and *Solanum* Car.  $\phi$ . Ten drops were put in a glass of water, and that was taken during two days, four or five doses each day. The results are shown in the number of epileptic attacks each month while taking each medicine." The results were "decidedly in favor of *Solanum*, and that was evident shortly after it was first prescribed. It has not cured any patients yet, but its effects are better in some cases than any other remedy except *belladonna*."

—The triennial meeting of the New England Psychological Society will be held at Clark University, Worcester, January 30, 1891, on invitation of the President, G. Stanley Hall.

The President will address the society, and addresses will also be made by Professors Donaldson, Sanford, Boas and Lombard. These gentlemen will give demonstrations of laboratory work. After adjournment the society will be entertained at the Worcester Lunatic Hospital by Dr. Quinby, the new superintendent.

MICHIGAN.—Dr. E. H. Van Deusen, formerly Superintendent of the Michigan Asylum for the Insane at Kalamazoo, but at present retired from active practice, has recently donated to the city of Kalamazoo the sum of \$50,000 for the purpose of the erection of a public library building. There is but one condition fixed to the donation, and that is expressed in the following language, quoted from the Doctor's letter to the Board of Education, tendering the gift: "The sole condition we affix to the acceptance of this proposition is, that a commodious room, with a small office attached, located and arranged satisfactorily to us, shall be permanently set apart for the use of the Kalamazoo Academy of Medicine. This use to be restricted to the meetings of the Academy, and for its literary and reading-room purposes only. The Kalamazoo Academy of Medicine is an incorporated institution, and when permanently located will rapidly increase its library. The costlier works and periodicals of very great value and service to physicians, but too expensive to be owned by individuals, will be added to its collection. As the entire public will participate in the advantages thus to be secured, it seems to us both proper and desirable that the Academy of Medicine be a co-occupant of the proposed public library."

—A new cottage accommodating fifty patients has been opened at the Northern Asylum, Traverse City.

NEW JERSEY.—In the new building of the State Lunatic Asylum there are two hundred and twenty-five patients of the quiet, chronic and incurable cases, with a capacity for three hundred. In this building are in use the large congregate dining-rooms, one for each sex, and thus far, with selected cases, they have worked very satisfactory.

—A new two-story kitchen and laundry building, 150 by 40 feet, has been erected at the Essex County Asylum at Newark.

NEW YORK.—Instruction in the Training School connected with the Buffalo State Hospital was resumed in October and lectures are now being delivered by the various members of the staff; those on obstetrics and monthly nursing by the newly appointed woman physician.

The success of the Training School is an established fact. Graduated nurses are constantly sought and there are now several of the regular staff of attendants engaged in outside work at remunerative wages, from sixty to one hundred dollars a month. The success of the school attracts a better class of applicants, and among the women especially, insures greater permanency of position.

Work on the new building has been delayed for a short time by inability to get the heating apparatus in position and working order. The plan adopted is the force blast system, which is the perfection of the old idea of putting the whole basement under pressure by a fan located in the engine-house. In this, the air is forced through heated coils in front of the fan located in the basement of the building to be heated, into a galvanized iron duct, and conveyed directly to the base of the heating flues. This puts the whole building under direct air pressure and overcomes any irregularities in heating produced by the pressure of the outside air.

Dr. Eleanor McAllister, the newly appointed woman physician, entered upon her duties in September last. She has been assigned work in the Training School, attends the gynecological cases and assists in the medical care of the women patients.

On the 18th day of December, by invitation of the Board of Managers, the Senators and Assemblymen of the Eighth Judicial District of the State, met at the hospital. They made an extended inspection of the wards and various departments and thus became familiar with the needs of the institution. They were entertained at lunch and pleased with their visit. An effort will be made to obtain from the legislature an appropriation for another ward building on the westerly side of the present structure in continuance of the original plan.

—The Attorney-General of the State has decided that it was not intended by the Legislature which created the State Commission in Lunacy to place the idiots under their care. The Commission are required to report to the Legislature upon the number of idiots as well as insane, and to that end have powers of visitation, but therein their authority is limited.

—The fourth meeting of the Association of Medical Superintendents and Trustees of State Hospitals was held at the Middletown Homeopathic Hos-

pital September 17, 1890. An address was delivered by Dr. Talcott on "The Hospital Idea as applied to the Treatment of the Insane," which was discussed by Drs. Andrews and Wise. "Hospital Nursing," and "Hospital Diet and Sanitation," were among the other questions considered. The occasion afforded opportunity of dedicating the new hospital building and the new chapel and entertainment hall of the Homœopathic Hospital.

—At the Binghamton State Hospital the new south building for disturbed and destructive females, was occupied December 17th, 1890, and the cottage on the Phelps farm has been remodeled. The latter affords very comfortable quarters for twenty-five male patients. A new smoke-stack and addition to the boiler-house have been completed, and a brass band has been re-organized and is making rapid progress. Twenty-four patients have been recently transferred from the Cortland County Asylum in compliance with an order of the State Commission in Lunacy.

—At the St. Lawrence State Hospital patients were received December 9th, and within forty-eight hours after the reception of the first case, one hundred and forty patients were entered upon the books and under care. The hospital commences its operations in the Infirmary, the only building of the system completed, but the management anticipate the completion of the Executive building and reception cottages by May 1st, proximo, and provision for patients,—sufficient to bring the aggregate to four hundred and fifty. The organization of the hospital medical staff at present consists of the superintendent, Dr. Wise, the first assistant physician, Dr. J. Montgomery Mosher, and the fourth assistant, Dr. J. A. Barnette.

—The Supervisors of Monroe county, one of the three counties exempted from the operations of the "State Care" act of 1890, have adopted a resolution offering to transfer to the State the "Monroe County Insane Asylum, and about 35 acres of land, together with all the appurtenances and equipments used in the care of the insane, for the sum of \$50,000." This action is taken in conformity with Section 14 of the "State Care" act, which provides that any or all of the exempted counties, should they desire to avail themselves of the provisions of the act, may, by the proper local authorities, make application to the Governor, for the transfer to the State of "all such buildings, land, appurtenances and equipment as are used by them as county insane asylums." After a report from the "Board for the establishment of State insane asylum districts and other purposes," relative to the propriety of the transfer, the question will be submitted by the Governor to the Legislature for final action.

—A number of patients have been removed from the Kings County asylum at Flatbush to the asylum at St. Johnland, affording temporary relief from the overcrowding at the former institution. In spite of these transfers and other discharges and deaths, the census is higher by nearly one hundred than it was thirteen months ago. Charitable friends from Brooklyn give an occasional entertainment for the patients, and weekly dances have been inaugurated.



—After January 1st, 1891, "St. Johnland" will be known as "King's Park."

NORTH CAROLINA.—Following a resolution adopted by the State Medical Society at its meeting in May last, a meeting of Superintendents, Representatives of Boards of Directors of Institutions for the Insane, of the State Board of Health, the State Medical Society and the State Board of Charities, was held in Raleigh, on the 13th of November last. At this conference a resolution was adopted that the legislature be asked to make appropriation for the enlargement of the three State asylums, in order to accommodate the insane at present lodged in jails and poor-houses; to change the name of the Western Insane Asylum at Morgantown to "State Hospital," and to authorize that certain wards therein be set apart for the treatment of inebriates—the number not to exceed twelve of each sex; and to so amend the code that the criminal insane may not have precedence of the innocent insane as to admission to the asylums. Dr. James Baker, of the State Board of Health, and Dr. J. P. Caldwell, of the Morgantown Asylum, were requested to collect statistics of inebriety, idiocy and imbecility, and a committee was appointed to lay the important questions considered before the legislature with request for the necessary appropriation to carry their recommendations into effect.

NORTH DAKOTA.—The census of the North Dakota Hospital at Jamestown is 227. The artesian well has been recently completed and yields a flow of six thousand barrels a day, five thousand barrels more than is actually required. The surplus is used for irrigation, machinery, etc., and has already been of service in increasing the yield of the garden, which produced during the last season, crops valued at \$3,000, from about thirty-five acres. The water pressure of this new supply is sufficient to throw a two-inch stream seventy feet high.

OHIO.—The death of Dr. A. G. Byers, Secretary of the Board of State Charities, occurred in November. Dr. John G. Doren, of Dayton, a member of the Board and brother of the Superintendent of the Imbecile Asylum at Columbus, was appointed to fill the vacancy.

PENNSYLVANIA.—Singing birds and plants have been placed in the wards of the hospital at Warren. The Turkish bath has been in operation over two months and has been of great service in cases of melancholia and in other patients of dull and sluggish circulation.

—The Christmas circular of 1890, of the Pennsylvania Training School for Feeble Minded Children states:

"Our Christmas circular has been issued for thirty years, and has been the blessed means of bringing a great number of charitable people in sympathy with a class of children, no longer sadly neglected, but receiving in numerous public institutions, in our own and foreign lands, the most helpful influences of care, training and education.

The liberal Christmas donations hitherto made to this institution, have

enabled us not only to provide a bountiful festival at the festival season, but to extend through the whole year, special means of amusement, and likewise to add special and permanent apparatus, such as the tramway running between our buildings, and furnishing every day, out-door exercises to helpless children, in pleasure cars; a Hook & Hastings organ of 720 pipes, to be erected in our Keystone Hall; liberal additions to our free fund for the support of indigent children, etc., etc. Whatever surplus remains from the Christmas of 1890, will be placed to the credit of our free fund, unless other directions are given by donors."

—In the report of the Department for Men of the State Hospital for the Insane of the South East District of Pennsylvania, for the year ending September 30, 1890, Dr. Chase announces the following experiment:

"In the light of the experiments with rhythmic flashes of light in the treatment of nervous diseases, we are about to begin a series of experiments with rhythmic sound in the treatment of insanity. The instrument will consist of a mechanism similar to an electric drum, where rhythmic vibrations can be completely controlled both in velocity and pitch. Our mode of operation has not yet been definitely mapped out, but suggestions will undoubtedly arise in the course of experiment. Perchance, we may attempt, in boisterous forms of disorder, to out-herod Herod, in making a racket, and by putting the patient to the blush, cure his diseases; or, it may be found that a subdued rhythmic vibration may carry on its wings the healing balm, whether the interrupted or continuous current should be used, whether increased or diminished rapidity will best suit the purpose, and the choice of the subject and method, are all as yet matters of trial. Insomnia will furnish a wide field for exploration. It is a familiar fact that persons who are habitually wakeful at home on beds even of wire springs and feathers can often be soothed into slumber in a railway sleeping coach by the regular and continuous noise of the wheels upon the track. It has occurred to us that a pleasant sound, by the means suggested, pitched just above the irregular sonoric disturbances of turning in bed, coughing, snoring, sighing, etc., of a dormitory or ward, might be attended with beneficial results; or happily administered in individual cases."

TEXAS.—The election of a new Governor—the candidate of the Farmers' Alliance—will involve the retirement of Dr. J. S. Dorset, Superintendent of the State Lunatic Asylum at Austin, at the expiration of his term, January 21, 1891. He will be succeeded by Dr. W. W. Reeves, a general practitioner, who is without practical experience in the care of the insane. Dr. Dorset will open a Sanitarium at Fort Worth for the care and treatment of nervous diseases, the opium habit, alcoholism, &c.

VERMONT.—The State Legislature has appropriated \$50,000 for the completion and furnishing of the male wing of the State Asylum at Waterbury, which is expected to be ready for opening June 1, 1891.

WASHINGTON.—The Western Hospital for the Insane, located at Fort Steilacoom, contains four hundred patients, three hundred of whom are men.

A new water supply system is under construction and will soon be completed. It consists of a tower 80 feet high, on top of which rests a tank holding 10,000 gallons of water, and another one immediately under it containing 15,000 gallons; an engine and pump capable of lifting 600 gallons a minute; the necessary pipe, fire plugs, hose, hose cart, etc., for an effective fire service. The water is obtained from an unfailing spring of the purest water. The cost of the plant is \$12,000.

—The Eastern Washington Hospital for the Insane is rapidly approaching completion. Within a few weeks the plumbing will be finished and the building will then be furnished. The opening of the hospital will be delayed until March 1st, or later, on account of insufficient water supply. A well and spring which were thought ample to meet all requirements have been found entirely inadequate, and the legislature will be asked to appropriate funds to establish a plant at Clear Lake, which is two miles distant.

The new hospital is situated on the west shore of Medical Lake, facing the town of the same name. It stands on an eminence, one hundred and fifty feet above the level of the lake, affording an excellent view of the surrounding country. Lakes, prairies and wood lands; hemmed in on all sides by mountain ranges, make a most beautiful panorama. The Cœur d'Alene, Colville and Kootenai ranges are plainly visible, and even the mountains of British Columbia, one hundred and twenty miles to the northeast, may be seen on a clear day.

The building is not constructed after the latest approved design. It is almost a counterpart of the institution at Fort Steilacoom, with the exception of the centre building, which is one story higher. The fourth story of the centre building will be used for the chapel and amusement hall. The wings are three stories high, and will accommodate one hundred and fifty patients. Each ward will have a dining-room. The entire building will be lighted by the Edison incandescent system, and heated by direct radiation. Three large boilers will furnish steam for heating and for a fifty horse-power engine. A smaller engine, twelve horse-power, will be used for laundry purposes, so that the larger engine need not be used until the dynamos are in operation.

When completed this hospital will receive patients from all counties east of the Cascade range of mountains.

Medical Lake has a local reputation as a health restorer, especially in cases of chronic rheumatism. The water is alkaline and contains potassic and sodic chlorides in considerable quantities, with traces of many other ingredients, among them magnesium and lithium. The salts are extracted and sold to many who cannot afford the luxury of a plunge in the lake. The lake is about one mile long and a fourth of a mile wide.

CANADA.—The Branch Asylum at Mimico, near Toronto, is now occupied by three hundred patients in five cottages. They were drafted from all the other asylums in the Province. Three cottages in addition to the above will be ready for occupation in about three months. The class of patients sent to this Branch so far, may be styled chronic and incurable. It is under the jurisdiction of Toronto Asylum, but must of necessity become soon an independent institution, as it is now too large to be properly administered by an executive six miles distant. Dr. Murphy and a clinical student (about to graduate) are in charge at present.

## APPOINTMENTS AND RESIGNATIONS.

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- BAMFORD, THOMAS E., appointed Assistant Physician at the Willard State Hospital, Willard, N. Y.
- BANCROFT, GEORGE A., appointed Assistant Physician at the Taunton Lunatic Hospital, Taunton, Mass.
- BARBOUR, PHILIP F., appointed Second Assistant Physician in the Eastern Kentucky Asylum, Lexington, Ky.
- BARNETTE, J. A., appointed Fourth Assistant Physician at the St. Lawrence State Hospital, Ogdensburgh, N. Y.
- BASSE, E. P., appointed Assistant Physician at the Southern Indiana Hospital for the Insane, Evansville, Ind.
- BENSON, N. J., appointed Second Assistant Physician of the Illinois Southern Hospital for the Insane, Auna, Ill.
- BISHOP, A. C., appointed Third Assistant Physician of the Kings County Asylum, Flatbush, N. Y.
- BOLTON, J. R., Appointed Second Assistant Physician at the Essex County Asylum, Newark, N. J.
- BURNS, A. E., resigned as First Assistant Physician of the Kings County Asylum, Flatbush N. Y.
- BYRNE, W. J., resigned the Superintendency of the Central Kentucky Asylum, Lakeland, Ky.
- CARLON, P. P., promoted to be First Assistant Physician of the Kings County Asylum, Flatbush, N. Y.
- CHESTER, C. B., appointed Superintendent of the Cleveland Hospital for Insane, Cleveland, Ohio.
- COPP, OWEN, promoted to be First Assistant Physician at the Taunton Lunatic Hospital, Taunton, Mass.
- CRANDALL, G. C., appointed Acting Assistant Physician at the Northern Michigan Asylum, Traverse City, Mich.
- CRUM, E. GERTRUDE, appointed Assistant Physician at the Binghamton State Hospital, Binghamton, N. Y.
- DOLAN, A. STANLEY, formerly Assistant Physician at the Michigan Asylum for Insane Criminals, appointed First Assistant Physician of the Third Minnesota Hospital, Fergus Falls, Minn.
- DREW, C. A., formerly Assistant Physician at the Taunton Lunatic Hospital, Taunton, Mass., appointed Assistant Physician at the Government Hospital for the Insane, Washington, D. C.
- EDWARDS, WILLIAM M., appointed Superintendent of the Michigan Asylum for the Insane, at Kalamazoo, Mich.
- ELLIOTT, R. M., appointed Second Assistant Physician at the Monroe County Asylum, Rochester, N. Y.

- EVANS, S., formerly Second Assistant Physician in the Eastern Kentucky Asylum, appointed First Assistant Physician of the Central Kentucky Asylum, Lakeland, N. Y.
- FELTY, JOHN C., appointed Assistant Physician of the State Lunatic Asylum Trenton, N. J.
- GALE, A. F. H., resigned as Assistant Physician of the State Lunatic Asylum, Trenton, N. J.
- GRAY, J. A., appointed Second Assistant Physician of the Kings County Asylum, St. Johnland, N. Y.
- HARMON, F. W., appointed Superintendent of the Longview Asylum, Carthage, Ohio.
- HASKINS, ALBERT appointed Assistant Physician at the Michigan Asylum for the Insane at Kalamazoo, Mich.
- HUTCHINSON, M., formerly First Assistant Physician at the Taunton Lunatic Hospital, Taunton, Mass., appointed Superintendent of the Massachusetts Hospital for Dipsomaniacs and Inebriates.
- JONES, EDWARD H., promoted to the Superintendency of the Central Kentucky Asylum, Lakeland, Ky.
- LUDEWIG, W. H., appointed Third Assistant Physician of the Iowa Hospital for Insane, Mount Pleasant, Iowa.
- LYNDE, SAMUEL H., appointed Second Assistant Physician of the Milwaukee Hospital for Insane, Wauwatosa, Wis.
- MCALLISTER, ELEANOR, formerly Assistant Physician at the Willard State Hospital, appointed Assistant Physician at the Buffalo State Hospital, Buffalo, N. Y.
- MCCORN, W. A., resigned as First Assistant Physician of the Milwaukee Hospital for Insane, Wauwatosa, Wis.
- MEISBURGER, WILLIAM C., promoted to be First Assistant Physician of the Milwaukee Hospital for the Insane, Wauwatosa, Wis.
- MORRIS, C. M., promoted to be First Assistant Physician of the Essex County Asylum, Newark, N. J.
- MOSHER, J. M., formerly Assistant Physician of the Willard State Hospital, appointed First Assistant Physician of the St. Lawrence State Hospital, Ogdensburg, N. Y.
- NASH, A. B., resigned as First Assistant Physician of the Essex County Asylum, Newark N. J.
- PALMER, GEORGE C., resigned superintendency of the Michigan Asylum for the Insane at Kalamazoo, Mich., to take charge of the new private Asylum at Flint, Mich.
- PARKER, J. M. JR., appointed Assistant Physician at the Iowa State Hospital for Insane, Mount Pleasant, Iowa.
- PERRENAUD, P. A., appointed Assistant Physician at the Michigan Asylum for Insane Criminals, Ionia, Mich.



- RATLIFF, J. M.**, appointed First Assistant Physician at the Longview Asylum, Carthage, O.
- REEVES, W. W.**, appointed Superintendent of the State Lunatic Asylum, Austin, Texas, to succeed Dr. J. S. Dorset, whose term expires January 21, 1891.
- RODGERS, HARRIS C.**, appointed Fourth Assistant Physician of the Binghamton State Hospital, Binghamton, N. Y.
- SMITH, E. J.**, appointed Second Assistant Physician of the Kings County Asylum, Flatbush, N. Y.
- STOCKING, L. E.**, resigned as Second Assistant Physician of the Illinois Southern Hospital for the Insane, Anna, Ill.
- STRAUB, P. F.**, resigned as Third Assistant Physician of the Iowa Hospital for Insane, Mount Pleasant, Ia.
- STRONG, JAMIN**, removed from superintendency of the Cleveland Hospital for Insane, Cleveland, O.
- TEST, F. G.**, formerly Assistant Superintendent and Acting Superintendent, appointed Superintendent of the Asylum for the Incurable Insane, at Hastings, Neb.
- THOMPSON, W. N.**, formerly Assistant Physician in the Vermont Asylum for the Insane, appointed Assistant Physician in the Taunton Lunatic Hospital, Taunton, Mass.
- TONEY, L. C.**, appointed Medical Superintendent of the Insane Asylum of Arizona at Phoenix.
- TRACEY, I. O.**, promoted to be Assistant Superintendent of the Kings County Asylum, at Flatbush, N. Y.
- VANHOUSEN, BERTHA M.**, resigned as Assistant Physician at the Michigan Asylum for the Insane, at Kalamazoo, Mich., to accept the position of Resident Physician in the New England Hospital for Women and Children, at Boston, Mass.
- ZARING, C. T.**, appointed Assistant Physician at the Southern Indiana Hospital for the Insane, Evansville, Ind.

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- REEVES, W. W.**, appointed Superintendent of the State Lunatic Asylum, Austin, Texas, to succeed Dr. J. S. Dorset, whose term expires January 31, 1891.
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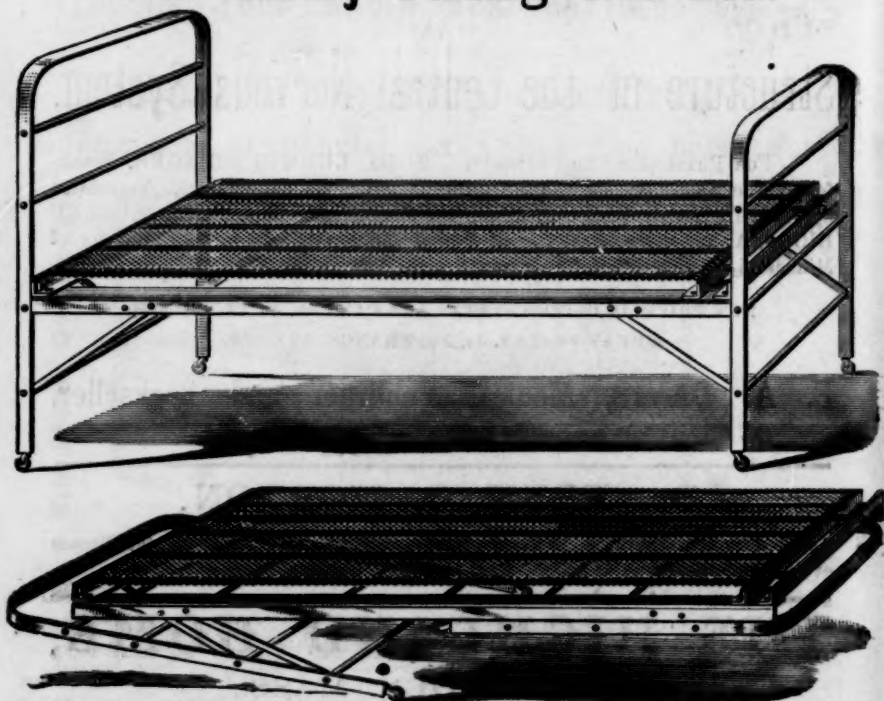
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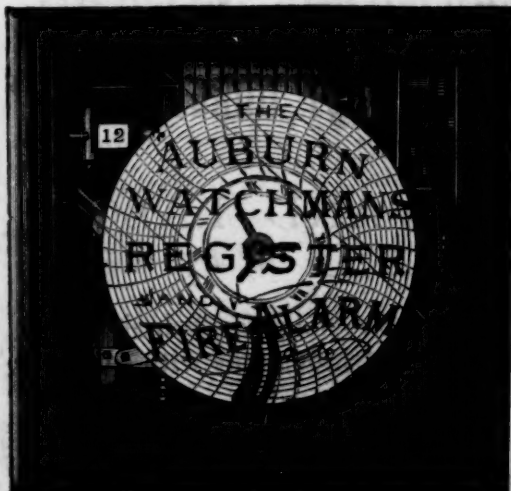
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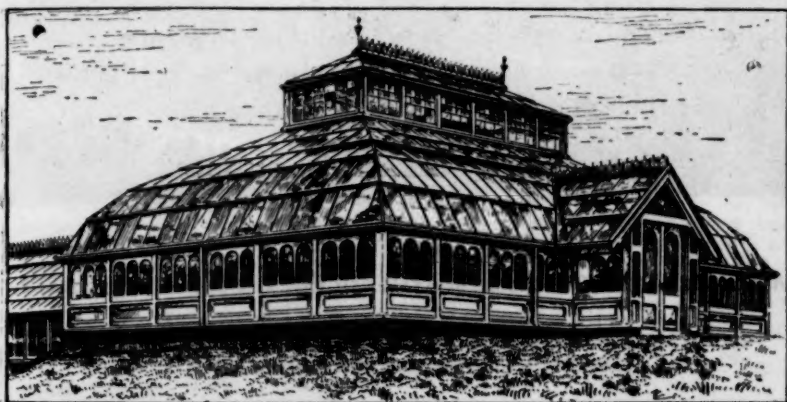
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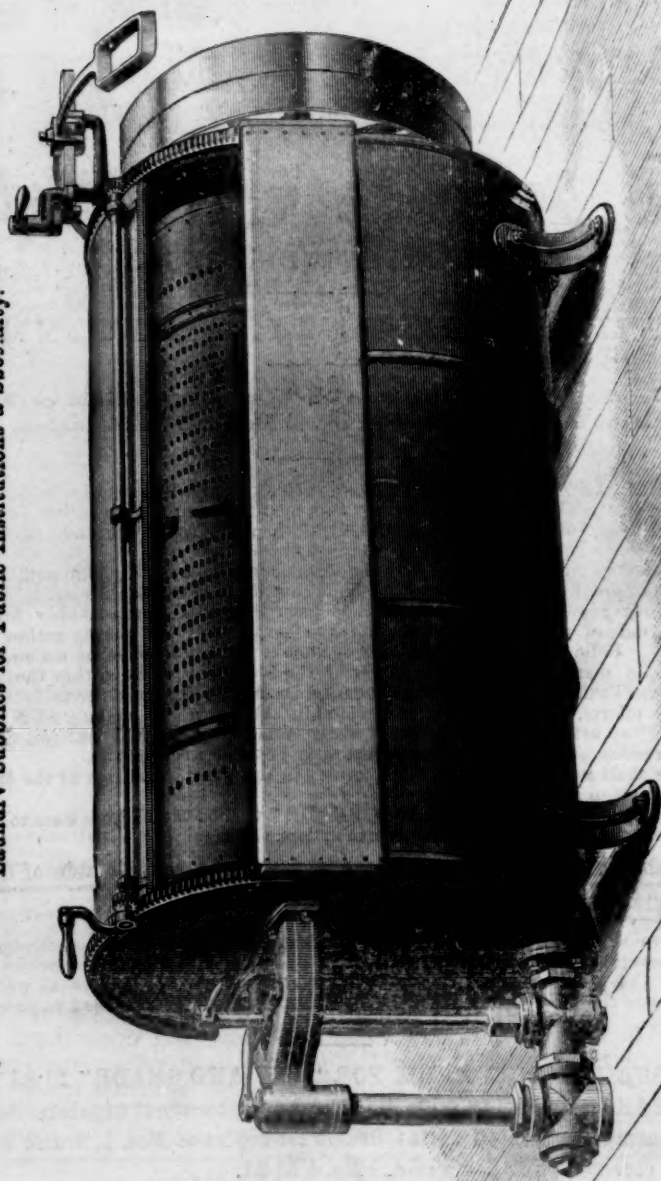
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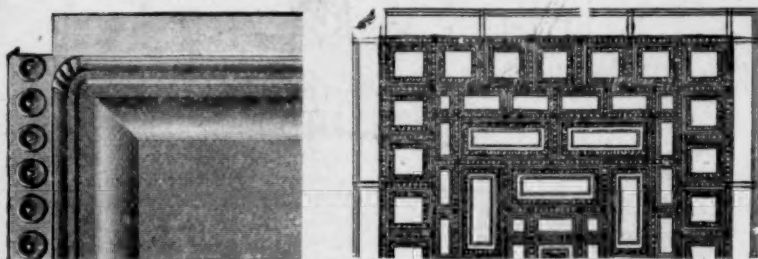
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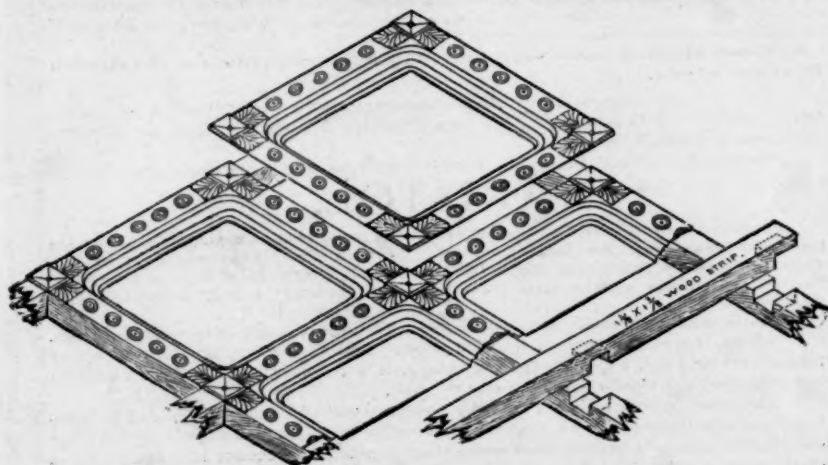
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